SECTION 1 – Categorization

This report will document a pilot study undertaken by Broadway Real Estate Services LLC, hereafter known as the building owner to evaluate the self-implementing on-site cleanup and disposal option of Title 40 § 761.61, PCB remediation waste.

On September 29, 2009, Urban Water Proofing with the assistance of their subcontractor Restec Environmental removed PCB containing caulking material from various sections of stone sheathing and prepared surfaces for the installation of non-PCB containing caulking. This work entailed the manual removal (razor knives) out of caulking, surface grinding, and alcohol cleaning of stone interfaces.

Mr. Michael Bishop of RGA Environmental, under the supervision of Robert Gils, Certified Industrial Hygienist (CIH) observed the work and collected sheathing bulk and wipe samples. All samples were collected following a typical envelope prep-work scenario, hereafter referred to as prep-work.

(1) Applicability

100 California is a 15 story building constructed in the 1960s. The building is occupied and completely surrounded by paved surfaces with no exposed landscaping. Exterior finishes for the first floor of the building are glass with columns clad in marble and granite. Exterior finishes from the second floor and above are glass, stone (primarily white and black granite) with miscellaneous metal appurtenances (see cover photo).

(2) Site Characterization

Various caulkings containing PCBs were used to seal the joints between exterior granite panels, marble panels, metal panels and metal mullions[1]. The caulking is presently intact and remains adhered to the building.

For the purposes of evaluating the PCB content of caulking bulk samples were cut from various building elevations for PCB analyses. Access to various building elevations was via a swing stage drop from the roof. Table 1 below provides a summary of the bulk sampling data.

PCB concentrations for the first floor ranged from non-detect (ND) to 61 parts per million (ppm), and for the second floor and above from approximately 12 ppm to 38,000 ppm for stone to stone and stone to metal surfaces. The maximum caulking concentration (189,000 ppm) measured was on metal to metal panels located under windows. The caulking on the upper floors was predominately black, while that on the ground floor was white / black in color.

Table 1 BULK PCB SAMPLING DATA - See Tab 3 for Laboratory data and sample locations

Sample Number	Floor	Description	Concentration ppm
9081-BM 5	01ST	Black Granite	1.6
9081-WM 5	01ST	White Marble	3.1
9081-BM 2	01ST	Black Granite	6.1
9081-WM 1	01ST	White Marble	8.4
9081-BM 4	01ST	Black Granite	9.5
9081-WM 11	01ST	White Marble	12
9081-BM 3	01ST	Black Granite	13
9081-WM 10	01ST	White Marble	18

[1] Mullions – continuous vertical metal drops on the face of the building

Sample Number	Floor	Description	Concentration ppm
9081-WM 6	01ST	White Marble	21
9081-WM 9	01ST	White Marble	22
9081-BM 10	01ST	Black Granite	61
9081-BM 1	01ST	Black Granite	.5
9081-BM 6	01ST	Black Granite	<10
9081-BM 9	01ST	Black Granite	<10
9081-BM 11	01ST	Black Granite	<10
9081-WM 3	01ST	White Marble	<100
9081-BM 7	01ST	Black Granite	<25
9081-BM 8	01ST	Black Granite	<25
9081-WM 7	01ST	White Marble	<5
9081-WM 8	01ST	White Marble	<5
9081-WM 2	01ST	White Marble	<50
9081-WM 4	01ST	White Marble	<50
PCB-17	04th	Black Sealant	720
PCB-40	05th	Black Sealant	164
PCB-39	05th	Black Sealant	2200
PCB-26	05th	Black Sealant - Panel	180000
9081-WGP-9	07th	White Granite Panel	18
9081-CVM-9	07th	Continuous Vertical Mullion	270
9081-CVM-2	07th	Continuous Vertical Mullion	440
9081-CVM-3	07th	Continuous Vertical Mullion	910
9081-CVM-5	07th	Continuous Vertical Mullion	2700
9081-CVM-6	07th	Continuous Vertical Mullion	5200
100-PCB-3	07th	Black Sealant	8800
100-PCB-9	07th	Caulk metal	9400
100-PCB-4	07th	Black Sealant	18000
100-PCB-10	07th	Caulk metal	38000
PCB-9	08th	Black Sealant	40
PCB-38	08th	Black Sealant	500
PCB-37	08th	Black Sealant	13000
9081-WGP-2	09TH	White Granite Panel	23
9081-WGP-6	09TH	White Granite Panel	40
9081-CVM-7	09TH	Continuous Vertical Mullion	190
9081-CVM-1	09TH	Continuous Vertical Mullion	230
9081-CVM-8	09th	Continuous Vertical Mullion	250
9081-CVM-4	09TH	Continuous Vertical Mullion	2500
PCB-25	10th	Black Sealant - Metal panel	189000
PCB-34	11th	White Caulk/Black Caulk	21
PCB-33	11th	White Caulk/Black Caulk	28
PCB-32	11th	Black Sealant	84
PCB-36	11th	Black Sealant	88
PCB-35	11th	Black Sealant	4700
PCB-31	11th	Black Sealant	23000
PCB-5	12th	Gray Sealant	1300
9081-WGP-3	13th	White Granite Panel	12

Sample Number	Floor	Description	Concentration ppm
9081-WGP-4	13TH	White Granite Panel	37
9081-WGP-5	13TH	White Granite Panel	37
9081-WGP-8	13TH	White Granite Panel	38
9081-WGP-7	13TH	White Granite Panel	54
9081-WGP-1	13TH	White Granite Panel	230
100-PCB-5	13th	Caulk metal window	15000
100-PCB-6	13th	Caulk metal	15000
100-PCB-7	13th	Caulk metal	15000
100-PCB-8	13TH	Caulk metal	29000
PCB-3	14th	Black Sealant	93
PCB-30	14th	Black Sealant	1000
100-PCB-2	NR	Black Sealant	14
100-PCB-1	NR	Black Sealant	150

NR –not recorded

A. PCB Containing Materials and Pilot Cleanup Testing

To address residual PCB concentrations absorbed within the stone finishes and the effectiveness of the removal / cleaning process, sampling was completed at multiple locations identified in Drawing 1 (Appendix 2). Following removal and surface preparation, wipe samples were collected from the interfaces of stone panels. Approximately 100 cm^2 of the exposed surface area between the panels was wipe-sampled. Chip (bulk) samples of the stone finishes were also obtained for the purpose of PCB extraction. All samples were analyzed using EPA method 8082 by McCampbell Analytical, Inc. (see Table 2). The results of testing are shown in Table 2 and summarized below:

1. Wipe testing from prepared stone surfaces[2] indicated no measurable PCB residue remained on stone finishes following prep-work. PCB concentrations extracted from stone columns at the first floor level were less <0.79 ppm. This is generally in agreement with the bulk testing data indicating much lower PCB concentrations for the first floor caulking (see Table 1). Note: During the course of the work the Owner will collect a total of 10 exterior wipe samples to assure that these conditions continue to be met.

2. PCBs extracted from stone chips above the 1st floor (2nd through 14th floors) indicated absorbed concentrations of <5.54 ppm[3]. Again the higher levels measured are generally in conformance with the higher PCB content of caulking found within these areas.

3. PCB concentrations within the cement grout between white granite sheathing under windows was 29.36 ppm. As the grout will be completely removed and properly disposed of it is not discussed further as part of this report.

4. PCB concentrations of caulking at metal finishes (i.e. metal to metal and metal to stone) were generally higher than caulking impacting non-metal (i.e. stone to stone) finishes. PCB caulking will be removed from metal finishes and the metal will be re-caulked with non-PCB caulking. Metal is considered non-porous and will not be discussed further.

[2] Cleaned and ready for the installation of non-PCB replacement caulking

[3] 95% Confidence based upon the sample set - 8 solid samples with ND results marked up to detection limits.

Table 2 –Sample Locations by Floor 9.29.2009 – See Tab 2 for laboratory data and sample locations

Location	Sample ID	Location	Sample Type	Sample Description	PCB Concentration (ppm)
1	M1	01st	Bulk	White Marble	ND <0.79
	MW1	01st	Wipe	White Marble	ND
	BG1	01st	Wipe	Black Granite	ND
2	WG6	07th	Solid	White Granite	2.1
	BG6	07th	Solid	Black Granite	5.4
	M3	07th	Solid	White Marble	ND <0.60
	WG5	07th	Wipe	White Granite	ND
	M2	07th	Wipe	White Marble	ND
3	BG5	11th	Solid	Black Granite	ND <0.50
	WG4	11th	Solid	White Granite	ND <0.91
	BG4	11th	Wipe	Black Granite	ND
	MC1	11th	Wipe	Metal Column	ND
	WG3	11th	Wipe	White Granite	ND
4	WG2	12th	Solid	White Granite	1.9
	BG3	12th	Solid	Black Granite	ND <0.57
	BG2	12th	Wipe	Black Granite	ND
	WG1	12th	Wipe	White Granite	ND
5	M5	13th	Solid	White Marble	3.8
	M4	13th	Wipe	White Marble	ND
6	GR2	08th	Solid	Grout	23.8
	GR1	11th	Solid	Grout	21
	GR3	13th	Solid	Grout	22

3.) Exposure Potential

The building entrance is considered a high occupancy area testing. Residual PCBs within building finishes were measured at < 0.79 ppm and therefore this area meets cleanup levels without further conditions. Granite finishes on upper floors have residual concentrations of PCB containing material < 5.57 ppm. Upper floors are low occupancy and meet current cleanup levels thus requiring no further action (see Table 3).

4. Cleanup Levels

Table 3 –Exposure Potential by Location

LOC	OCCUPANCY	PCB CONTAINING MATERIALS	ABSORBED PCBS (ppm)	CLEANUP LEVELS (ppm)	
1st	High occupancy areas	Granite and marble columns at entry doors	<0.79	≤ 1	NFA
2nd – 14th	Low occupancy	Granite to granite with lesser granite to metal interfaces.	< 5.54	1≥ AND ≤ 10	NFA

CL – Clean up Levels; NFA – No Further Action

Chip testing indicates that over the previous 50 years, stone surfaces have absorbed relatively small amounts of PCBs from caulking materials. The greater the concentration of PCB within caulking at stone surfaces the greater the residual amount of PCBs present within that surface. Regardless, for all wipe test areas there was no detectable PCB residue accumulated upon the stone surfaces following prep-work[4] and cleaning. The replacement caulking is a silicone based material known as SilPruf. It does not contain PCB's. Silicones are somewhat permeable and will reabsorb residual PCB's. The amount of PCB's that would be reabsorbed would be dependent upon the amount (ppm) remaining within the substrates and the longevity of the caulking at that substrate. Assuming that the silicone caulking will remain 50 years in-situ, there will be no change in exposure assessment for the building based upon current criteria.

[4] Caulking is removed via razor cutting. Surfaces are prepared via grinding.

95% CL PILOT STUDY DATA - RESIDUAL PCB CONCENTRATIONS FLOORS 2 ~14

Sample ID*	Location	Sample Type	Sample Description	PCB Concentration (ppm)	PCB Concentration (ppm)	AVG	2SD
WG2	12th	Solid	White Granite	1.9	1.9		
WG6	07th	Solid	White Granite	2.1	2.1		
M5	13th	Solid	White Marble	3.8	3.8		
BG6	07th	Solid	Black Granite	5.4	5.4		
BG5	11th	Solid	Black Granite	ND <0.50	0.5		
BG3	12th	Solid	Black Granite	ND <0.57	0.57		
WG4	11th	Solid	White Granite	ND <0.91	0.91		
M3	07th	Solid.	White Marble	ND <0.60	0.6	1.97	5.54
WG5	07th	Wipe	White Granite	ND	ND		
M2	07th	Wipe	White Marble	ND	ND		
BG4	11th	Wipe	Black Granite	ND	ND		
MC1	11th	Wipe	Metal Column	ND	ND		
WG3	11th	Wipe	White Granite	ND	ND		
BG2	12th	Wipe	Black Granite	ND	ND		
WG1	12th	Wipe	White Granite	ND	ND		
M4	13th	Wipe	White Marble	ND	ND		

(5) **Site Cleanup**

Solid waste materials will collected in 55 gallon drums and profiled Hazardous waste must be tested and categorized for purposes of disposal. Restec will submit written evidence of approved testing (including copy of the actual chain-of-custody forms) and disposal of hazardous wastes within 90 (days) days following the completion of each phase of the project. Restec will submit written evidence that the disposal sites are approved for PCBs, lead and any other hazardous materials disposal by the USEPA and state or local regulatory agency(s). Uniform hazardous waste manifests prepared, signed and dated by an agent of the disposal site certifying the amount of hazardous materials delivered will be provided. The manifest must be provided to the Owner within twenty-five (25) working days after delivery.

Bulk PCB remediation wastes removal. Dry bulk PCB waste will be removed as indicated in the general removal procedures immediately following this section. The cleanup process will incorporate the use of isopropyl alcohol.

(1) No chlorinated solvents will be used.
(2) All cleanup will be at ambient temp.
(3) All processes will be either hand tools or mechanical in nature, with HEPA exhausted equipment to provide finish surfaces (See Bulk PCB Remediation Waste).
(4) No external heat sources will be used for cleaning.
(5) Solvent in the form of isopropyl alcohol will be used to clean surfaces. No liquid waste is anticipated as the solvents evaporate during the cleaning process, leaving only the residue accumulated on the cleaning rags. The cleaning rags and other wastes generated will be segregated, containerized and disposed of per § 761.61 PCB remediation waste and as described in the General Removal Procedures (below).
(6) No solvent waste will be generated during the process. Bulk and particulate waste will be collected as indicated in the General Removal Procedures (below).

Bulk PCB remediation waste will be sent off-site for disposal at an authorized disposal site to be determined. Transport containers will comply with DOT Hazardous Materials Regulations (HMR) 49 CFR parts 171 through 180.

(1) Dewatering: PCB waste will be dry and dewatering will not be needed.
(2) Concentrations: Previous testing indicates PCB concentrations range from none detect to a maximum of 189,000 ppm (parts per million) for caulking at metal to metal surfaces primarily under windows.
    a. Caulking waste from the first floor, which has a lower PCB concentrations, ranging from none detect to 61 ppm, will be segregated from caulking on upper floors.
    b. 29 Sections of granite sheathing will be removed from the building as part of the renovation process. Previous testing indicates that the granite is slightly porous, having absorbed a concentration of approximately 5.57 ppm PCBs on upper floors, and <.79 ppm on the first floor[1]. Sections of granite sheathing scheduled for disposal will have PCB containing caulking removed; edges ground and wiped down with isopropyl alcohol prior to being containerized for disposal.
(3) It is estimated that four waste streams, as follows, will be generated during the cleanup process.
    a. Ground floor caulking; second floor and above caulking, granite slabs, and cleaning rags / protective clothing waste. Depending upon testing results undertaken as waste streams are generated some waste streams may be combined or further segregated.
(4) The waste streams will be profiled by Restec to determine the appropriate disposal in accordance with Section 3004 of RCRA, and applicable state regulations covering PCB disposal. See work plan.
(5) It is estimated that there will be a total of 30 - - 55-gallon steel drums of dry waste. Waste will be shipped off site 90 every days. At least fifteen days prior to shipping Restec will test and manifest waste. Testing will be in accordance with EPA Extraction Method 3500B / 3540C or Method 3500B/3550B and chemical analysis in accordance with EPA Method 8082 in SW-846.

[1] Note the caulking materials used on the first floor appear different from those on upper floors.

RESTEC GENERAL REMOVAL PROCEDURES

1. Remove the bulk of the sealant and backer rod by means of a utility knife
2. Scrape as much of the residual sealant off the substrate as possible
3. On the granite and marble panels, grind the +/- ¼" bond line where the new sealant will be adhering to the stone with a mini grinder and diamond blade
4. Wipe the surface clean and free of dust and contaminants with alcohol.
5. All metal will receive a good scrub with a scratch pad and wiped clean with alcohol after existing sealant has been removed
6. Measures will be taken to ensure that the existing sealant will be contained to the swingstage during the removal process
7. While grinding, vacuums with HEPA filters will be attached to grinders to collect the dust
8. Employees will be wearing a combination of respirators, gloves, and Tyvek style suits during certain phases of the removal and prep.

REMOVAL GENERAL

1. Bulk Removal of Sealant and Backer Rods Using Hand Tools:
    a. Employees will use Tyvec type suits, impermeable neoprene gloves and respirators.
    b. Personal monitoring will be conducted to characterize employees' exposure. Following personal exposure monitoring respiratory protection may be downgraded for this phase of the work.
    c. If multiple phases of work are conducted concurrently on a swing stage (i.e. bulk removal and grinding) all employees on that stage and or potentially affected stages will use PAPRs (full-face Powered Air Purifying Respirators).

2. Detailed Surface Grinding of Exterior Finishes:
    a. As required by OSHA and the Work Plan (WP) personal monitoring will be conducted to characterize employee exposures. Both air and skin exposure sampling will be conducted.
    b. Employees will use PAPR respirators during this process
    c. Use of electric grinders equipped with shrouds and HEPA vacuums to control particulate release. No removal will be performed on days where the wind is likely to cause release of particulates from the swing stage.

3. Surface Cleaning with alcohol.
    a. As required by OSHA and the WP personal monitoring will be conducted to characterize employees' exposure to PCB's and lead.
    b. Personal monitoring will be conducted to characterize employees' exposure. Following personal exposure monitoring respiratory protection maybe downgraded.
    c. Restec personnel will use NIOSH approved half-faced respirators for the set-up and teardown of the containment areas. Restec will use NIOSH approved PAPR's for the gross removal of caulking and sealants and any power tool usage.
    d. If joint work is conducted on a swing stage (i.e. grinding and solvent cleanup) all employees on that stage and or potentially affected stages will use PAPRs. Personnel air sampling will be conducted for lead and PCB exposure. The sampling will continue until a representative sampling has been completed for each month. Personal skin wipe sampling will also be conducted to determine PPE effectiveness.

4. Swing Stage
    a. Enclosure controls See WP 1.2.F COMPLIANCE AND INTENT. Restec will not be installing critical barriers on the windows, but will be installing them over areas that are subject to interior leakage within the removal area.
    b. Apply a continuous band of adhesive tape at the interface of the swing stage and building wall to control the escape of particulate from the work area.
    c. As needed, but not less than two times per day and at the end of the shift, HEPA Vacuum the swing stage enclosure.
    d. Restec will immediately repair/replace damaged polyethylene drop cloths as appropriate to avoid particulate release. Minor tears or pinholes will be repaired with duct tape.

5. Entry and Exit Areas - Regulated Area
    a. Access to work areas will be through a regulated area generally located at the entry to the swing stage.
    b. Regulated areas will be designated with danger tape and delineators and have polyethylene drop sheets. Restec will install signage on the caution tape designating the area as having "Overhead Work", PCB and lead Hazard. Restec will have personnel on the ground (chip chaser) monitoring the area underneath the work area as well as collecting and HEPA vacuuming any visible debris.
    c. Workers will decontaminate and change and store clothing within the regulated area. Restec will have a wash station located on the roof for decontamination at the completion of the shifts. The wash station will include first aid materials, water, and soap and disposal bags for disposal for the consumable PPE's. The wash station shall include an area for the changing in and out of PPE. Restec will be installing engineering controls within the swing stage baskets. Restec will wrap the stage basket with 6 mil poly. Restec will add black "mesh-style" netting above the basket rails, supported by an appropriate framing. The mesh netting will serve the purpose of controlling emissions while not acting as a sail and therefore creating an unsafe condition for Restec personnel.
    d. Regulated areas will be used for equipment storage and temporary storage of waste materials.


altrex

Sampling Data 9/29/09

M5: Bulk White Marble: 3.8 ppm

WC3: Wipe on White Granite: ND

MC1: Wipe on metal column: ND

GR1: Bulk Grout: 21 ppm

WG6: Bulk White Granite: 2.1 ppm

M4: Wipe on White Marble: ND

WG5: Wipe on White Granite: ND

GR3: Bulk Grout: 22 ppm

BG5: Bulk Black Granite: ND LO.50

M2: Wipe on White Marble ND

BG4: Wipe on Black Granite: ND

M3: Bulk White Marble: ND < 0.60

MW1: White Marble wipe: ND

M1: White marble Bulk ND LO.79

GR2: Bulk Grout: 23.5 ppm

BG 6: Bulk, Black Granite 5.4 ppm

BG1: PCB Wipe on Black Granite: ND

WG4: Bulk, White Granite: ND LO.91

1/13 SOUTH ELEVATION

2/13 EAST ELEVATION

3/13 NORTH ELEVATION

KEY PLAN

HAYES & LITTLE AND JOHN A. BLUME & ASSOCIATES
STRUCTURAL ENGINEERS
DUDLEY DEANE & ASSOCIATES
MECHANICAL & ELECTRICAL ENGINEERS
SAN FRANCISCO CALIFORNIA

BETHLEHEM PACIFIC COAST STEEL CORPORATION
OFFICE BUILDING
SAN FRANCISCO CALIFORNIA

WELTON BECKET AND ASSOCIATES
ARCHITECTS AND ENGINEERS
123 MAIDEN LANE
SAN FRANCISCO CALIFORNIA

EXTERIOR ELEVATIONS

DATE JUNE 16, 1958
JOB NO. 4144
SHEET NO. 13-2

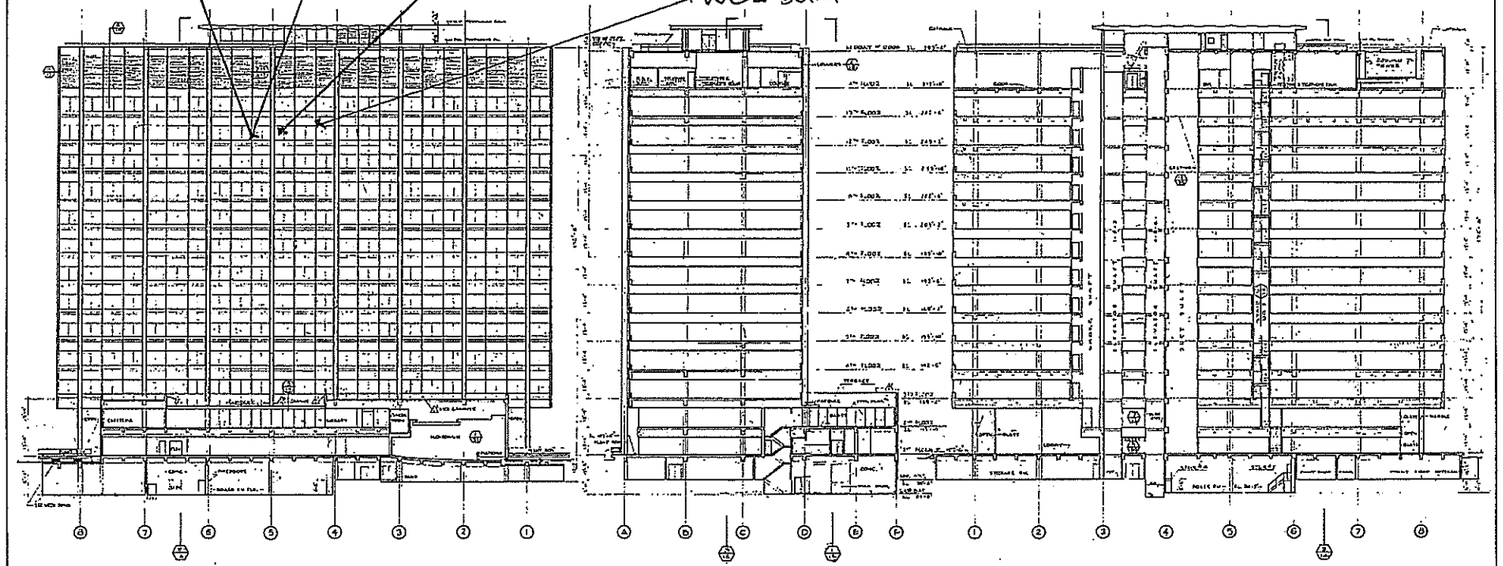
Sampling Data
5/29/09

BG2: PCB wipe on Black Granite: ND

BG3: PCB Bulk, Black Granite: ND < 0.5%

WG1: Wipe on white granite: ND

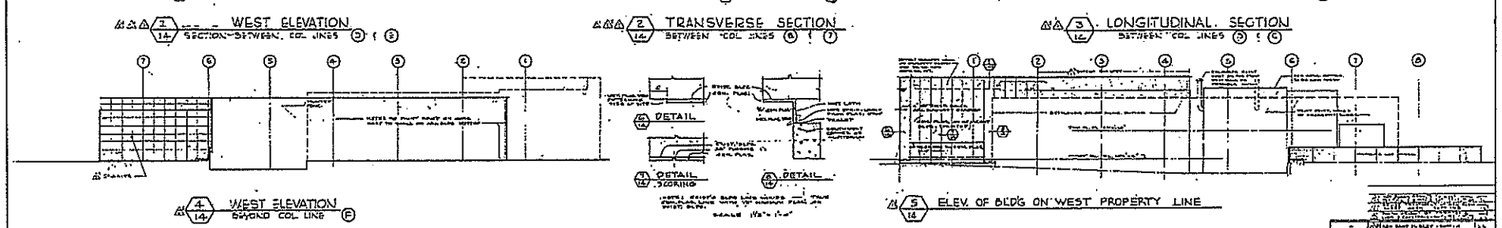
WG2: Bulk, White Granite 1.9ppm



3/14 WEST ELEVATION
SECTION BETWEEN COL LINES ⑨ & ⑧

2/14 TRANSVERSE SECTION
BETWEEN COL LINES ⑥ & ⑦

3/14 LONGITUDINAL SECTION
BETWEEN COL LINES ⑨ & ⑥



4/14 WEST ELEVATION
BEYOND COL LINE Ⓕ

DETAIL

DETAIL
SCORING

DETAIL

5/16 ELEV. OF BLDG ON WEST PROPERTY LINE

HAYES & LITTLE AND JOHN A. BLUME & ASSOCIATES
STRUCTURAL ENGINEERS
DUDLEY DEANE & ASSOCIATES
MECHANICAL & ELECTRICAL ENGINEERS
SAN FRANCISCO CALIFORNIA

BETHLEHEM PACIFIC COAST STEEL CORPORATION
OFFICE BUILDING
SAN FRANCISCO CALIFORNIA

WELTON BECKET AND ASSOCIATES
ARCHITECTS AND ENGINEERS
183 MAIDEN LANE
SAN FRANCISCO CALIFORNIA

BUILDING SECTIONS & WEST ELEVATION

DATE JUNE 16 1950
JOB NO. 4144
14-2

070702

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Environmental SAMPLE DATA SHEET

Project Name/Address: PCB Caulking Removal, 100 California PO #:

RGA Project #: BRES 21720 Sampled By: Mike B Sampling Date: 9/29/09

Sample(s) Sent To ☐ EM Lab ☐ Other: ☐ Turnaround Time: ___Rush ___24-Hr ___Standard

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* Shipping Requirements: ___ Priority __Standard Overnight __2-Day

ADDITIONAL REPORT RECIPIENT(S):

Sample I.D.	Type	Sample Description: Air	Bulk	Swab	Tape Lift		Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	Culture	Direct Exam		Analysis
M1			X				White marble @ Ground level E side					X		PCB
MW1							White marble @ Ground level E side							
BG1							Black granite col @ Ground level E side							
BG2							Black granite panel @ 12th Fl W							
WG1							White BG granite @ 12th Fl W side							
WG2			X				White granite @ 12th Fl W side							
BG3							Black granite @ 12th Fl W side							

Relinquished By: Mike B Signature: Date/Time: 9/29/09 1441

Received By: Ben V. Signature: Date/Time: 9/29/09 1441

Relinquished By: Signature: Date/Time: 9/29/09 1820

Received By: Signature: Date/Time:

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__PM – B. Gils
bob@rgaenv.com
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Environmental SAMPLE DATA SHEET

Project Name/Address: _____ *PO #:* _____

RGA Project #: _____ Sampled By: _____ Sampling Date: _____

Sample(s) Sent To ☐ EM Lab ☐ Other: _____ ☐ _____ Turnaround Time: ___Rush ___24-Hr ___Standard

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* **Shipping Requirements:** ___ **Priority** __**Standard Overnight** __**2-Day**

ADDITIONAL REPORT RECIPIENT(S): _____

Sample I.D.	Type	Sample Description					Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	Culture	Direct Exam		Analysis
		Air	Bulk	Swab	Tape Lift									
GR1							Grout on 12th 11th Fl N side							
BG4							Black granite @ 11th Fl. N side							
WG3							Wht granite @ 11th Fl N side							
BG5							Blk granite @ 11th Fl N side							
WG4							Wht Granite @ 11th Fl N side							
MC1							Metal column @ 11th Fl. N side							
GR2							Grout on 8th Fl E side							

Relinquished By: Mike B Signature: _____ Date/Time: 9/29/09 1441

Received By: Brent V Signature: _____ Date/Time: 9/29/09 1441

Relinquished By: _____ Signature: _____ Date/Time: 9/29 1920

Received By: _____ Signature: _____ Date/Time: _____

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Environmental SAMPLE DATA SHEET

Project Name/Address: _____ *PO #:* _____

RGA Project #: _____ Sampled By: _____ Sampling Date: _____

Sample(s) Sent To ☐ EM Lab ☐ Other: _____ ☐ _____ Turnaround Time: ___Rush ___24-Hr ___Standard

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* Shipping Requirements: ___ Priority __Standard Overnight __2-Day

ADDITIONAL REPORT RECIPIENT(S): _____

Sample I.D.	Type	Sample Description					Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	Culture	Direct Exam		Analysis
		Air	Bulk	Swab	Tape Lift									
BG6							Black Granite @ 7th Fl E side							
WG5							wht granite @ 7th Fl E side							
WG6							wht granite @ 7th Fl E side							
M2							wht marble @ 7th Fl E side							
M3							wht marble @ 7th Fl. E side							
GR3							Grout @ 13th Fl E side							
M4							wht marble @ 13th Fl. E side							

Relinquished By: Mike B Signature: _____ Date/Time: 9/20/07 1444

Received By: Brent W. Signature: _____ Date/Time: 9/20/07 1441

Relinquished By: _____ Signature: _____ Date/Time: 9/20/07 1742

Received By: _____ Signature: _____ Date/Time: _____

RGA
ENVIRONMENTAL

__PM – S. Steiner
steff@rgaenv.com
fax: 510.899.7051

__PM – K. Schroeter
karin@rgaenv.com
fax: 510.899.7063

__PM – K. Pilgrim
ken@rgaenv.com
fax: 510.899.7053

__PM – B. Weisbrod
brent.weisbrod@rgaenv.com
fax: 510.899.7062

__PM – T. Kattchee
tedd@rgaenv.com
fax: 510.899.7070

__PM – B. Gils
bob@rgaenv.com
fax: 510.899.7050

Environmental SAMPLE DATA SHEET

Project Name/Address: _____ *PO #:* _____

RGA Project #: _____ Sampled By: _____ Sampling Date: _____

Sample(s) Sent To ☐ EM Lab ☐ Other: _____ ☐ _____ Turnaround Time: __Rush __24-Hr __Standard

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* Shipping Requirements: __ Priority __Standard Overnight __2-Day

ADDITIONAL REPORT RECIPIENT(S): _____

Sample I.D.	Type	Sample Description					Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	Culture	Direct Exam		Analysis
		Air	Bulk	Swab	Tape Lift									
M5							Wht mattl e 13th Fl. E side							

Relinquished By: Mike B Signature: _____ Date/Time: 9/20/07 1441

Received By: Ben Vigil Signature: _____ Date/Time: 9/20/07 1441

Relinquished By: Ben Vigil Signature: _____ Date/Time: 9/20 1920

Received By: _____ Signature: _____ Date/Time: _____

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0909832 **ClientCode: RGAE**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Bob Gils
RGA Environmental
1466 66th Street
Emeryville, CA 94608
(510) 547-7771 FAX (510) 547-1983

Email: bob@rgaenv.com
cc:
PO:
ProjectNo: #BRES 21720; PCB Caulking Removal

Bill to:
Andrea Peacock
RGA Environmental
1466 66th Street
Emeryville, CA 94608
invoices@rgaenv.com

Requested TAT: 5 days

Date Received: 09/29/2009
Date Printed: 09/29/2009

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0909832-001	M1	Solid	9/29/2009	☐	A											
0909832-002	MW1	Wipe	9/29/2009	☐		A										
0909832-003	BG1	Wipe	9/29/2009	☐		A										
0909832-004	BG2	Wipe	9/29/2009	☐		A										
0909832-005	WG1	Wipe	9/29/2009	☐		A										
0909832-006	WG2	Solid	9/29/2009	☐	A											
0909832-007	BG3	Solid	9/29/2009	☐	A											
0909832-008	GR1	Solid	9/29/2009	☐	A											
0909832-009	BG4	Wipe	9/29/2009	☐		A										
0909832-010	WG3	Wipe	9/29/2009	☐		A										
0909832-011	BG5	Solid	9/29/2009	☐	A											
0909832-012	WG4	Solid	9/29/2009	☐	A											
0909832-013	MC1	Wipe	9/29/2009	☐		A										
0909832-014	GR2	Solid	9/29/2009	☐	A											

Test Legend:

1	8082A_PCB_Solid	2	8082A_PCB_WI	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Ana Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0909832 **ClientCode: RGAE**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Bob Gils
RGA Environmental
1466 66th Street
Emeryville, CA 94608
(510) 547-7771 FAX (510) 547-1983

Email: bob@rgaenv.com
cc:
PO:
ProjectNo: #BRES 21720; PCB Caulking Removal

Bill to:
Andrea Peacock
RGA Environmental
1466 66th Street
Emeryville, CA 94608
invoices@rgaenv.com

Requested TAT: 5 days

Date Received: **09/29/2009**
Date Printed: **09/29/2009**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0909832-015	BG6	Solid	9/29/2009	☐	A											
0909832-016	WG5	Wipe	9/29/2009	☐		A										
0909832-017	WG6	Solid	9/29/2009	☐	A											
0909832-018	M2	Wipe	9/29/2009	☐		A										
0909832-019	M3	Solid	9/29/2009	☐	A											
0909832-020	GR3	Solid	9/29/2009	☐	A											
0909832-021	M4	Wipe	9/29/2009	☐		A										
0909832-022	M5	Solid	9/29/2009	☐	A											

Test Legend:

1	8082A_PCB_Solid	2	8082A_PCB_WI	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Ana Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **RGA Environmental**
Date and Time Received: **9/29/2009 7:48:47 PM**

Project Name: **#BRES 21720; PCB Caulking Removal**
Checklist completed and reviewed by: Ana Venegas

WorkOrder N°: **0909832** Matrix Solid/Wipe
Carrier: Benjamin Yslas (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp:		NA ☑
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☐	No ☑	

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

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Telephone: 877-252-9262 Fax: 925-252-9269

RGA Environmental	Client Project ID: #BRES 21720; PCB Caulking Removal	Date Sampled: 09/29/09
		Date Received: 09/29/09
1466 66th Street	Client Contact: Bob Gils	Date Extracted: 09/29/09
Emeryville, CA 94608	Client P.O.:	Date Analyzed 10/01/09-10/05/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0909832

Lab ID	0909832-001A	0909832-006A	0909832-007A	0909832-008A	Reporting Limit for DF =1	
Client ID	M1	WG2	BG3	GR1		
Matrix	S	S	S	S		
DF	1	1	1	10	S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<0.79	ND<0.50	ND<0.57	ND<5.0	0.025	NA
Aroclor1221	ND<0.79	ND<0.50	ND<0.57	ND<5.0	0.025	NA
Aroclor1232	ND<0.79	ND<0.50	ND<0.57	ND<5.0	0.025	NA
Aroclor1242	ND<0.79	ND<0.50	ND<0.57	ND<5.0	0.025	NA
Aroclor1248	ND<0.79	ND<0.50	ND<0.57	ND<5.0	0.025	NA
Aroclor1254	ND<0.79	1.9	ND<0.57	21	0.025	NA
Aroclor1260	ND<0.79	ND<0.50	ND<0.57	ND<5.0	0.025	NA
PCBs, total	ND<0.79	1.9	ND<0.57	21	0.025	NA
Surrogate Recoveries (%)						
%SS:	107	110	111	124		
Comments	a7,h4	a4,h4	a7,h4	a4,h4		

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

a4) the reporting limits were raised due to the sample's matrix prohibiting a full volume extraction.
a7) reporting limit raised due to insufficient sample amount
h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

RGA Environmental	Client Project ID: #BRES 21720; PCB Caulking Removal	Date Sampled: 09/29/09
		Date Received: 09/29/09
1466 66th Street	Client Contact: Bob Gils	Date Extracted: 09/29/09
Emeryville, CA 94608	Client P.O.:	Date Analyzed 10/01/09-10/05/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0909832

Lab ID	0909832-011A	0909832-012A	0909832-014A	0909832-015A	Reporting Limit for DF =1	
Client ID	BG5	WG4	GR2	BG6		
Matrix	S	S	S	S		
DF	1	1	2	2	S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<0.50	ND<0.91	ND<2.9	ND<1.0	0.025	NA
Aroclor1221	ND<0.50	ND<0.91	ND<2.9	ND<1.0	0.025	NA
Aroclor1232	ND<0.50	ND<0.91	ND<2.9	ND<1.0	0.025	NA
Aroclor1242	ND<0.50	ND<0.91	ND<2.9	ND<1.0	0.025	NA
Aroclor1248	ND<0.50	ND<0.91	ND<2.9	ND<1.0	0.025	NA
Aroclor1254	ND<0.50	ND<0.91	16	3.8	0.025	NA
Aroclor1260	ND<0.50	ND<0.91	7.8	1.6	0.025	NA
PCBs, total	ND<0.50	ND<0.91	23.8	5.4	0.025	NA
Surrogate Recoveries (%)						
%SS:	109	108	99	111		
Comments	a4,h4	a7,h4	a4,h4	a4,h4		

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

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RGA Environmental	Client Project ID: #BRES 21720; PCB Caulking Removal	Date Sampled: 09/29/09
		Date Received: 09/29/09
1466 66th Street	Client Contact: Bob Gils	Date Extracted: 09/29/09
Emeryville, CA 94608	Client P.O.:	Date Analyzed 10/01/09-10/05/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0909832

Lab ID	0909832-017A	0909832-019A	0909832-020A	0909832-022A	Reporting Limit for DF =1	
Client ID	WG6	M3	GR3	M5		
Matrix	S	S	S	S		
DF	1	1	10	1	S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<0.50	ND<0.60	ND<5.0	ND<0.50	0.025	NA
Aroclor1221	ND<0.50	ND<0.60	ND<5.0	ND<0.50	0.025	NA
Aroclor1232	ND<0.50	ND<0.60	ND<5.0	ND<0.50	0.025	NA
Aroclor1242	ND<0.50	ND<0.60	ND<5.0	ND<0.50	0.025	NA
Aroclor1248	ND<0.50	ND<0.60	ND<5.0	ND<0.50	0.025	NA
Aroclor1254	2.1	ND<0.60	22	3.8	0.025	NA
Aroclor1260	ND<0.50	ND<0.60	ND<5.0	ND<0.50	0.025	NA
PCBs, total	2.1	ND<0.60	22	3.8	0.025	NA
Surrogate Recoveries (%)						
%SS:	83	114	110	108		
Comments	a4,h4	a7,h4	a4,h4	a4,h4		

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

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RGA Environmental	Client Project ID: #BRES 21720; PCB Caulking Removal	Date Sampled: 09/29/09
		Date Received: 09/29/09
1466 66th Street	Client Contact: Bob Gils	Date Extracted: 09/29/09
Emeryville, CA 94608	Client P.O.:	Date Analyzed 09/30/09-10/01/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0909832

Lab ID	0909832-002A	0909832-003A	0909832-004A	0909832-005A	Reporting Limit for DF =1	
Client ID	MW1	BG1	BG2	WG1		
Matrix	Wipe	Wipe	Wipe	Wipe		
DF	1	1	1	1	Wipe	W
Compound	**Concentration**				µg/wipe	ug/L
Aroclor1016	ND	ND	ND	ND	0.5	NA
Aroclor1221	ND	ND	ND	ND	0.5	NA
Aroclor1232	ND	ND	ND	ND	0.5	NA
Aroclor1242	ND	ND	ND	ND	0.5	NA
Aroclor1248	ND	ND	ND	ND	0.5	NA
Aroclor1254	ND	ND	ND	ND	0.5	NA
Aroclor1260	ND	ND	ND	ND	0.5	NA
PCBs, total	ND	ND	ND	ND	0.5	NA
Surrogate Recoveries (%)						
%SS:	87	89	92	92		
Comments						

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

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RGA Environmental	Client Project ID: #BRES 21720; PCB Caulking Removal	Date Sampled: 09/29/09
		Date Received: 09/29/09
1466 66th Street	Client Contact: Bob Gils	Date Extracted: 09/29/09
Emeryville, CA 94608	Client P.O.:	Date Analyzed 09/30/09-10/01/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0909832

Lab ID	0909832-009A	0909832-010A	0909832-013A	0909832-016A	Reporting Limit for DF =1	
Client ID	BG4	WG3	MC1	WG5		
Matrix	Wipe	Wipe	Wipe	Wipe		
DF	1	1	1	1	Wipe	W
Compound	**Concentration**				µg/wipe	ug/L
Aroclor1016	ND	ND	ND	ND	0.5	NA
Aroclor1221	ND	ND	ND	ND	0.5	NA
Aroclor1232	ND	ND	ND	ND	0.5	NA
Aroclor1242	ND	ND	ND	ND	0.5	NA
Aroclor1248	ND	ND	ND	ND	0.5	NA
Aroclor1254	ND	ND	ND	ND	0.5	NA
Aroclor1260	ND	ND	ND	ND	0.5	NA
PCBs, total	ND	ND	ND	ND	0.5	NA
Surrogate Recoveries (%)						
%SS:	92	90	90	90		
Comments						

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

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RGA Environmental	Client Project ID: #BRES 21720; PCB Caulking Removal	Date Sampled: 09/29/09
		Date Received: 09/29/09
1466 66th Street	Client Contact: Bob Gils	Date Extracted: 09/29/09
Emeryville, CA 94608	Client P.O.:	Date Analyzed 09/30/09-10/01/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0909832

Lab ID	0909832-018A	0909832-021A			Reporting Limit for DF =1	
Client ID	M2	M4				
Matrix	Wipe	Wipe				
DF	1	1			Wipe	W
Compound	**Concentration**				µg/wipe	ug/L
Aroclor1016	ND	ND			0.5	NA
Aroclor1221	ND	ND			0.5	NA
Aroclor1232	ND	ND			0.5	NA
Aroclor1242	ND	ND			0.5	NA
Aroclor1248	ND	ND			0.5	NA
Aroclor1254	ND	ND			0.5	NA
Aroclor1260	ND	ND			0.5	NA
PCBs, total	ND	ND			0.5	NA
Surrogate Recoveries (%)						
%SS:	88	90				
Comments						

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

DHS ELAP Certification 1644

AR Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR SW8082

W.O. Sample Matrix: Wipe/Solid QC Matrix: Soil BatchID: 46130 WorkOrder 0909832

EPA Method SW8082 **Extraction SW3550C** **Spiked Sample ID: 0910023-007A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Aroclor1260	ND	0.075	113	117	3.45	93.1	95.9	2.94	70 - 130	20	70 - 130	20
%SS:	115	0.050	86.8	91.7	5.52	86	89	3.90	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 46130 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0909832-001A	09/29/09	09/29/09	10/01/09 5:24 PM	0909832-002A	09/29/09	09/29/09	09/30/09 10:34 PM
0909832-003A	09/29/09	09/29/09	09/30/09 9:38 PM	0909832-004A	09/29/09	09/29/09	09/30/09 8:42 PM
0909832-005A	09/29/09	09/29/09	09/30/09 7:46 PM	0909832-006A	09/29/09	09/29/09	10/01/09 6:19 PM
0909832-007A	09/29/09	09/29/09	10/01/09 7:14 PM	0909832-008A	09/29/09	09/29/09	10/01/09 8:10 PM
0909832-009A	09/29/09	09/29/09	09/30/09 6:49 PM	0909832-010A	09/29/09	09/29/09	09/30/09 5:52 PM
0909832-011A	09/29/09	09/29/09	10/02/09 6:17 AM	0909832-012A	09/29/09	09/29/09	10/02/09 7:11 AM
0909832-013A	09/29/09	09/29/09	10/01/09 2:19 AM	0909832-014A	09/29/09	09/29/09	10/03/09 8:21 AM
0909832-015A	09/29/09	09/29/09	10/03/09 9:16 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QC SUMMARY REPORT FOR SW8082

W.O. Sample Matrix: Wipe/Solid QC Matrix: Soil BatchID: 46154 WorkOrder 0909832

EPA Method SW8082 **Extraction SW3550C** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Aroclor1260	N/A	0.075	N/A	N/A	N/A	124	108	13.7	N/A	N/A	70 - 130	20
%SS:	N/A	0.050	N/A	N/A	N/A	100	99	0.699	N/A	N/A	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 46154 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0909832-016A	09/29/09	09/29/09	10/01/09 12:25 AM	0909832-017A	09/29/09	09/29/09	10/02/09 9:56 AM
0909832-018A	09/29/09	09/29/09	09/30/09 11:30 PM	0909832-019A	09/29/09	09/29/09	10/05/09 7:38 PM
0909832-020A	09/29/09	09/29/09	10/02/09 4:28 AM	0909832-021A	09/29/09	09/29/09	10/01/09 1:23 AM
0909832-022A	09/29/09	09/29/09	10/02/09 5:22 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

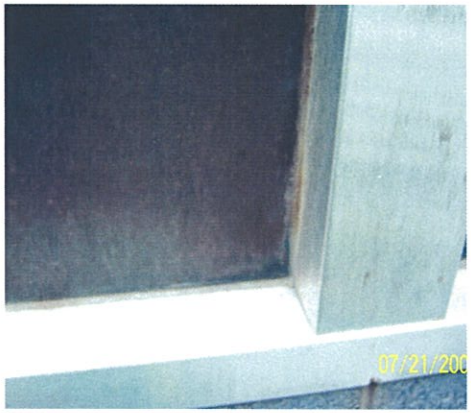
MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

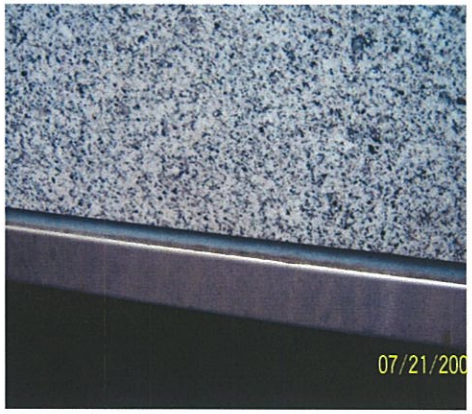
100 California Building Elevation

1. Metal
2. Black Granite
3. White Granite
4. Vertical Mullions
5. Polished Marble



100 California 7/21/2009
exterior sealants 016

100 California 7/21/2009
exterior sealants 015

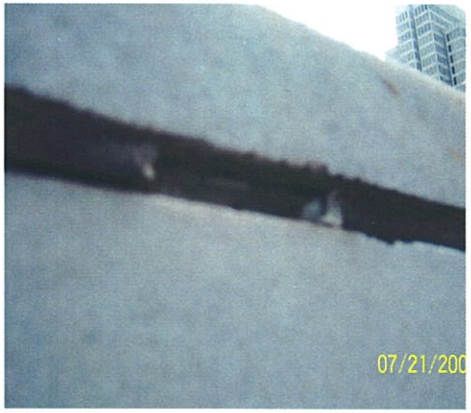


100 California 7/21/2009
exterior sealants 014

100 California 7/21/2009
exterior sealants 013

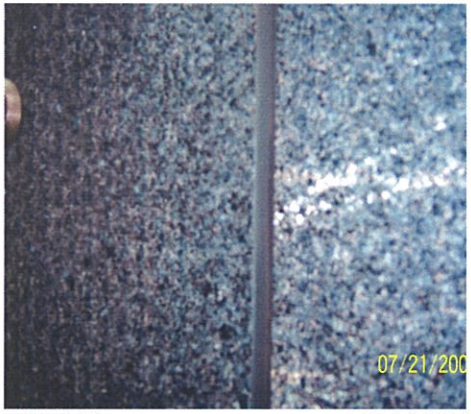
100 California 7/21/2009
exterior sealants 012

100 California 7/21/2009
exterior sealants 011

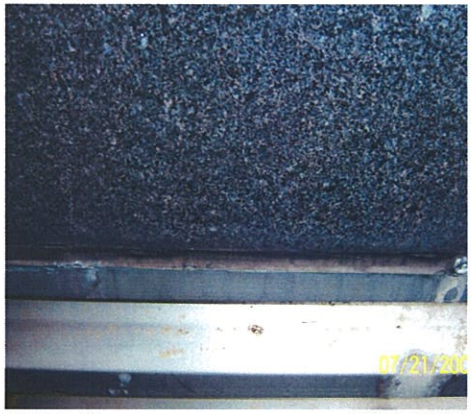


100 California 7/21/2009
exterior sealants 009

100 California 7/21/2009
exterior sealants 008



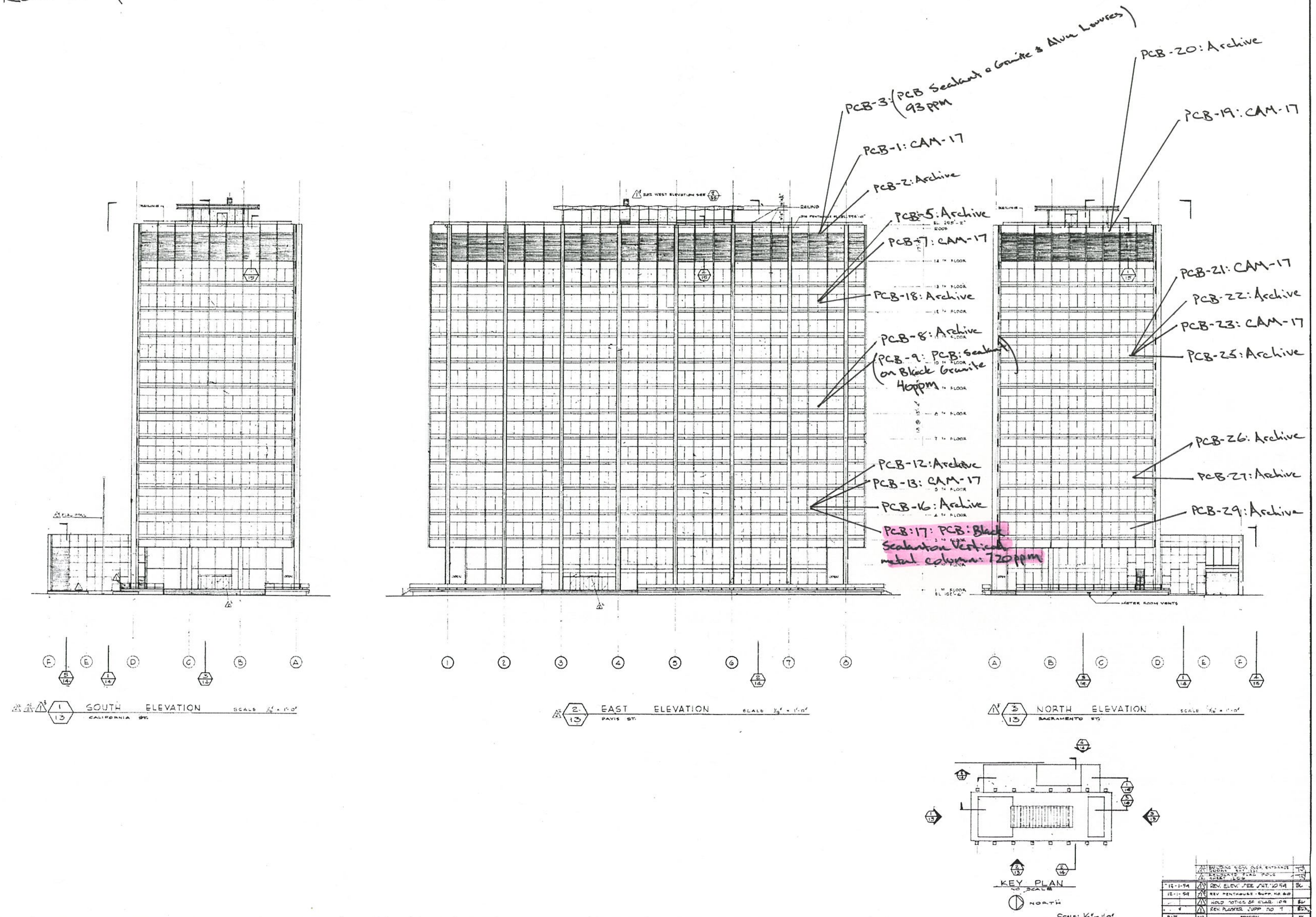
100 California 7/21/2009
exterior sealants 007



100 California 7/21/2009
exterior sealants 006

100 california 7/21/2009
exterior sealants 005

RCA Samples: PcB's. CAM-17 & Archived



DATE	NO.	REVISION	BY
		BUILDING SIGNS OVER ENTRANCE DOORS SHT. 13.1	
		RELOCATE FLAG POLE SHEET 1.08	
12-1-59	4	REV. ELEV. SEE SHT. 10.54	BL
12-1-59	3	REV PENTHOUSE - SUPP. NO. 60	
	2	HOLD NOTICE OF CLAR. 109	BL
	1	REV. PLANTER SUPP. NO. 7	BLK

HAYES & LITTLE AND JOHN A. BLUME & ASSOCIATES
STRUCTURAL ENGINEERS
DUDLEY DEANE & ASSOCIATES
MECHANICAL & ELECTRICAL ENGINEERS
SAN FRANCISCO CALIFORNIA

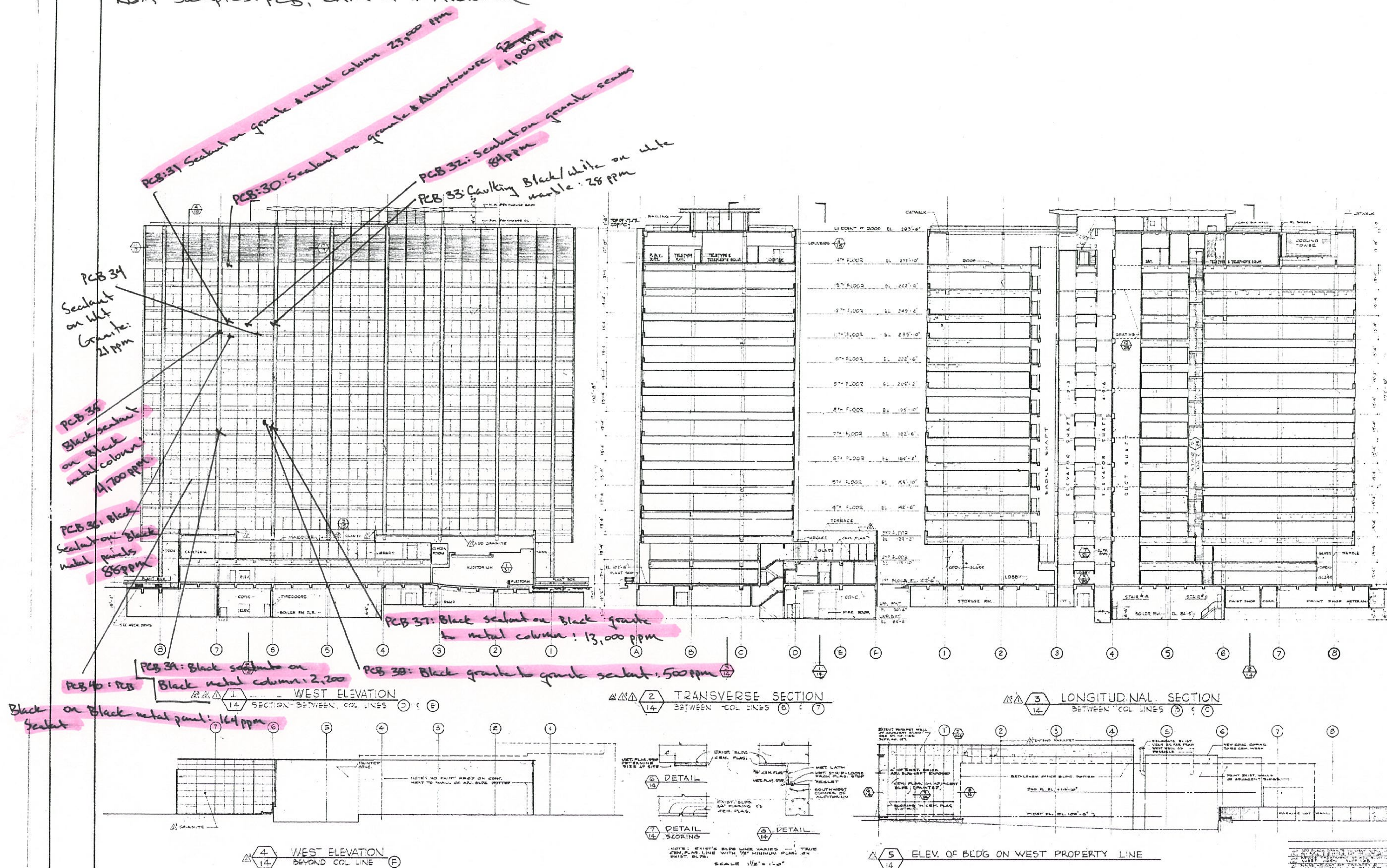
BETHLEHEM PACIFIC COAST STEEL CORPORATION
OFFICE BUILDING
SAN FRANCISCO CALIFORNIA

WELTON BECKET AND ASSOCIATES
ARCHITECTS AND ENGINEERS
153 MAIDEN LANE
SAN FRANCISCO CALIFORNIA

EXTERIOR ELEVATIONS

DRAWN: F | DATE: JUNE 16, 1958
TRACED | JOB NO. 4144
CHECKED: E.B. | SHEET NO. 13-2
PRINTED: 12-4-59

RLA samples: PCB, CAM-17 & Archived


PCB:31 Sealant on granite & metal column 23,000 ppm
PCB:30: Sealant on granite & Alum louvre ~~62 ppm~~ 1,000 ppm
PCB 32: Sealant on granite seams 84ppm
PCB 33: Caulking Black/white on white marble: 28 ppm
PCB 34 Sealant on Wht Granite: 21 ppm
PCB 35 Black sealant on Black metal column: 4,700 ppm
PCB 36: Black Sealant on Black metal panels 856ppm
PCB 37: Black sealant on Black granite to metal column: 13,000 ppm
PCB 38: Black granite to granite sealant: 500 ppm
PCB 39: Black sealant on Black metal column: 2,200
PCB 40: PCB Black Sealant on Black metal panel: 164 ppm
HI POINT OF ROOF EL. 293'-6"
14TH FLOOR EL. 275'-10"
13TH FLOOR EL. 262'-6"
12TH FLOOR EL. 249'-2"
11TH FLOOR EL. 235'-10"
10TH FLOOR EL. 222'-6"
9TH FLOOR EL. 209'-2"
8TH FLOOR EL. 195'-10"
7TH FLOOR EL. 182'-6"
6TH FLOOR EL. 169'-2"
5TH FLOOR EL. 155'-10"
4TH FLOOR EL. 142'-6"
3RD FLOOR EL. 129'-2"
2ND FLOOR EL. 115'-10"
1ST FLOOR EL. 102'-6"
1 / 14 WEST ELEVATION SECTION BETWEEN COL. LINES D & E
2 / 14 TRANSVERSE SECTION BETWEEN COL. LINES 8 & 7
3 / 14 LONGITUDINAL SECTION BETWEEN COL. LINES 3 & C
4 / 14 WEST ELEVATION BEYOND COL. LINE F
5 / 14 ELEV. OF BLDG ON WEST PROPERTY LINE
6 / 14 DETAIL
7 / 14 DETAIL SCORING
8 / 14 DETAIL
NOTE: EXIST'G BLDG LINE VARIES — TRUE CEM. PLAS. LINE WITH 1/2" MINIMUM PLAS. ON EXIST. BLDG.
SCALE 1 1/2" = 1'-0"
SCALE: 1/16" = 1'-0"

Date	No.	Revision	By
		Rev. Bsmt Fl. Elev. - Supp. 11	L.L.
12-1-1959		Rev. Treatment of Adjacent Bldgs. - Supp. No. 127	L.L.
		Revised Penthouse - Supp. No. 60	L.L.

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WELTON BECKET AND ASSOCIATES
ARCHITECTS AND ENGINEERS
153 MAIDEN LANE
SAN FRANCISCO CALIFORNIA

BUILDING SECTIONS & WEST ELEVATION

DRAWN R.W.H. DATE JUNE 16 1958
TRACED JOB NO. 4144
CHECKED E.B. SHEET NO. 14-2
PRINTED 12-4-1959

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Telephone: 877-252-9262 Fax: 925-252-9269

RGA Environmental	Client Project ID: #BRES 21720; 100 California Street	Date Sampled: 07/21/09
		Date Received: 07/22/09
1466 66th Street	Client Contact: Bob Gils	Date Extracted: 07/22/09
Emeryville, CA 94608	Client P.O.:	Date Analyzed 07/28/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0907563

Lab ID	0907563-003A	0907563-007A	0907563-011A		Reporting Limit for DF =1	
Client ID	PCB-3	PCB-9	PCB-17			
Matrix	S	S	S			
DF	50	20	200		S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<27	ND<12	ND<140		0.025	NA
Aroclor1221	ND<27	ND<12	ND<140		0.025	NA
Aroclor1232	ND<27	ND<12	ND<140		0.025	NA
Aroclor1242	ND<27	ND<12	ND<140		0.025	NA
Aroclor1248	ND<27	ND<12	ND<140		0.025	NA
Aroclor1254	93	40	720		0.025	NA
Aroclor1260	ND<27	ND<12	ND<140		0.025	NA
PCBs, total	93	40	720		0.025	NA
Surrogate Recoveries (%)						
%SS:	---#	---#	---#			
Comments	h4	h4	h4			

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

RGA Environmental	Client Project ID: #BRES 21720; Sealant Replacement, 100 California	Date Sampled: 07/27/09
		Date Received: 07/27/09
1466 66th Street	Client Contact: Bob Gils	Date Extracted: 07/27/09
Emeryville, CA 94608	Client P.O.:	Date Analyzed 07/31/09-08/03/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0907685

Lab ID	0907685-001A	0907685-002A	0907685-003A	0907685-004A	Reporting Limit for DF =1	
Client ID	PCB-30	PCB-31	PCB-32	PCB-33		
Matrix	S	S	S	S		
DF	500	10000	10	20	S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<250	ND<6800	ND<15	ND<19	0.025	NA
Aroclor1221	ND<250	ND<6800	ND<15	ND<19	0.025	NA
Aroclor1232	ND<250	ND<6800	ND<15	ND<19	0.025	NA
Aroclor1242	ND<250	ND<6800	ND<15	ND<19	0.025	NA
Aroclor1248	ND<250	ND<6800	ND<15	ND<19	0.025	NA
Aroclor1254	1000	23,000	50	28	0.025	NA
Aroclor1260	ND<250	ND<6800	34	ND<19	0.025	NA
PCBs, total	1000	23,000	84	28	0.025	NA
Surrogate Recoveries (%)						
%SS:	---#	---#	119	114		
Comments	h4	h4	h4	h4		

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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Telephone: 877-252-9262 Fax: 925-252-9269

RGA Environmental	Client Project ID: #BRES 21720; Sealant Replacement, 100 California	Date Sampled: 07/27/09
		Date Received: 07/27/09
1466 66th Street	Client Contact: Bob Gils	Date Extracted: 07/27/09
Emeryville, CA 94608	Client P.O.:	Date Analyzed 07/31/09-08/03/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0907685

Lab ID	0907685-005A	0907685-006A	0907685-007A	0907685-008A	Reporting Limit for DF =1	
Client ID	PCB-34	PCB-35	PCB-36	PCB-37		
Matrix	S	S	S	S		
DF	20	1000	10	10000	S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<10	ND<500	ND<16	ND<8600	0.025	NA
Aroclor1221	ND<10	ND<500	ND<16	ND<8600	0.025	NA
Aroclor1232	ND<10	ND<500	ND<16	ND<8600	0.025	NA
Aroclor1242	ND<10	ND<500	ND<16	ND<8600	0.025	NA
Aroclor1248	ND<10	ND<500	ND<16	ND<8600	0.025	NA
Aroclor1254	21	3200	46	13,000	0.025	NA
Aroclor1260	ND<10	1500	42	ND<8600	0.025	NA
PCBs, total	21	4700	88	13,000	0.025	NA
Surrogate Recoveries (%)						
%SS:	100	---#	---#	---#		
Comments	h4	h4	h4	h4		

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

RGA Environmental	Client Project ID: #BRES 21720; Sealant Replacement, 100 California	Date Sampled: 07/27/09
		Date Received: 07/27/09
1466 66th Street	Client Contact: Bob Gils	Date Extracted: 07/27/09
Emeryville, CA 94608	Client P.O.:	Date Analyzed 07/31/09-08/03/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0907685

Lab ID	0907685-009A	0907685-010A	0907685-011A		Reporting Limit for DF =1	
Client ID	PCB-38	PCB-39	PCB-40			
Matrix	S	S	S			
DF	200	1000	10		S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<100	ND<980	ND<15		0.025	NA
Aroclor1221	ND<100	ND<980	ND<15		0.025	NA
Aroclor1232	ND<100	ND<980	ND<15		0.025	NA
Aroclor1242	ND<100	ND<980	ND<15		0.025	NA
Aroclor1248	ND<100	ND<980	ND<15		0.025	NA
Aroclor1254	350	2200	96		0.025	NA
Aroclor1260	150	ND<980	68		0.025	NA
PCBs, total	500	2200	164		0.025	NA
Surrogate Recoveries (%)						
%SS:	---#	---#	---#			
Comments	h4	h4	h4			

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

AR Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR SW8082

W.O. Sample Matrix: Solid QC Matrix: Soil BatchID: 44694 WorkOrder 0907685

EPA Method SW8082 **Extraction SW3550C** **Spiked Sample ID: 0907605-004A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Aroclor1260	ND	0.075	130	121	6.93	111	114	2.24	70 - 130	20	70 - 130	20
%SS:	118	0.050	115	114	0.517	120	121	0.812	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 44694 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0907685-001A	07/27/09	07/27/09	08/02/09 4:00 PM	0907685-002A	07/27/09	07/27/09	08/02/09 4:57 PM
0907685-003A	07/27/09	07/27/09	08/02/09 5:53 PM	0907685-004A	07/27/09	07/27/09	08/01/09 3:29 AM
0907685-005A	07/27/09	07/27/09	08/02/09 6:50 PM	0907685-006A	07/27/09	07/27/09	08/01/09 12:45 AM
0907685-007A	07/27/09	07/27/09	08/03/09 3:40 PM	0907685-008A	07/27/09	07/27/09	08/02/09 8:42 PM
0907685-009A	07/27/09	07/27/09	08/03/09 12:03 PM	0907685-010A	07/27/09	07/27/09	07/31/09 9:03 PM
0907685-011A	07/27/09	07/27/09	08/03/09 12:59 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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Telephone: 877-252-9262 Fax: 925-252-9269

RGA Environmental 1466 66th Street Emeryville, CA 94608	Client Project ID: #BRES 21720; Sealant Replacement, 100 California	Date Sampled: 07/27/09 Date Received: 07/27/09
	Client Contact: Bob Gils	Date Reported: 08/04/09
	Client P.O.:	Date Completed: 08/04/09

WorkOrder: 0907685

August 04, 2009

Dear Bob:

Enclosed within are:

1) The results of the 11 analyzed samples from your project: **#BRES 21720; Sealant Replacement,**
2) A QC report for the above samples,
3) A copy of the chain of custody, and
4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

RGA ENVIRONMENTAL

__PM – S. Steiner steff@rgaenv.com fax: 510.899.7051

__PM – K. Schroeter karin@rgaenv.com fax: 510.899.7063

__PM – K. Pilgrim ken@rgaenv.com fax: 510.899.7053

__PM – B. Weisbrod brent.weisbrod@rgaenv.com fax: 510.899.7062

__PM – T. Kattchee tedd@rgaenv.com fax: 510.899.7070

☑ PM – B. Gils bob@rgaenv.com fax: 510.899.7050

Environmental SAMPLE DATA SHEET

096768S

Project Name/Address: Sealant Replacement, 100 California PO #:

RGA Project #: BRES 2170 Sampled By: Mike B Sampling Date: 7/27/09

Sample(s) Sent To ☐ EM Lab ☒ Other: McCampbell Turnaround Time: __Rush __24-Hr __Standard

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* Shipping Requirements: __Priority __Standard Overnight __2-Day

ADDITIONAL REPORT RECIPIENT(S):

Sample I.D.	Type	Sample Description: Air	Bulk	Swab	Tape Lift		Sample Location (ICE / GOOD CONDITION ✓ / HEAD SPACE ABSENT / DECHLORINATED IN LAB / APPROPRIATE CONTAINERS ✓ / PRESERVED IN LAB / PRESERVATION: VOAs, O&G, METALS, OTHER)	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	Culture	Direct Exam		Analysis
PCB-30			X				14th Fl W side (2)							PCB
PCB-31			↓				11th Fl. W side (1)							↓
PCB-32							11th Fl. W side (3)							
PCB-33							11th Fl. W side (4-5)							
PCB-34							11th Fl. W side (9)							
PCB-35							11th Fl. W side (10)							
PCB-36			↓				11th Fl. W side (11)							↓

Relinquished By: Mike B Signature: Date/Time: 7/27/09

Received By: Signature: Date/Time:

Relinquished By: Signature: Date/Time:

Received By: Signature: Date/Time:

RGA ENVIRONMENTAL

__PM – S. Steiner
steff@rgaenv.com
fax: 510.899.7051

__PM – K. Schroeter
karin@rgaenv.com
fax: 510.899.7063

__PM – K. Pilgrim
ken@rgaenv.com
fax: 510.899.7053

__PM – B. Weisbrod
brent.weisbrod@rgaenv.com
fax: 510.899.7062

__PM – T. Kattchee
tedd@rgaenv.com
fax: 510.899.7070

__PM – B. Gils
bob@rgaenv.com
fax: 510.899.7050

Environmental SAMPLE DATA SHEET

Project Name/Address: _____ *PO #:* _____

RGA Project #: _____ Sampled By: _____ Sampling Date: _____

Sample(s) Sent To ☐ EM Lab ☐ Other: _____ ☐ _____ Turnaround Time: ___Rush ___24-Hr ___Standard

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* Shipping Requirements: ___Priority __Standard Overnight __2-Day

ADDITIONAL REPORT RECIPIENT(S): _____

Sample I.D.	Type	Sample Description					Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	Culture	Direct Exam		Analysis
		Air	Bulk	Swab	Tape Lift									
PCB-37			X				8th Fl. W side (1)							PCB
PCB-38			↓				8th Fl. W side (3)							↓
PCB-39			↓				5th Fl. W side (10)							
PCB-40			↓				5th Fl. W side (11)							

Relinquished By: Mike B Signature: _____ Date/Time: 7/27/09

Received By: _____ Signature: _____ Date/Time: 7/27/09

Relinquished By: _____ Signature: _____ Date/Time: 7/27/09

Received By: _____ Signature: _____ Date/Time: _____

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0907685 **ClientCode: RGAE**

☒ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Bob Gils
RGA Environmental
1466 66th Street
Emeryville, CA 94608
(510) 547-7771 FAX (510) 547-1983

Email: bob@rgaenv.com
cc:
PO:
ProjectNo: #BRES 21720; Sealant Replacement, 100 California

Bill to:
Andrea Peacock
RGA Environmental
1466 66th Street
Emeryville, CA 94608
invoices@rgaenv.com

Requested TAT: 5 days

Date Received: **07/27/2009**
Date Printed: **07/27/2009**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
0907685-001	PCB-30	Solid	7/27/2009	☐	A											
0907685-002	PCB-31	Solid	7/27/2009	☐	A											
0907685-003	PCB-32	Solid	7/27/2009	☐	A											
0907685-004	PCB-33	Solid	7/27/2009	☐	A											
0907685-005	PCB-34	Solid	7/27/2009	☐	A											
0907685-006	PCB-35	Solid	7/27/2009	☐	A											
0907685-007	PCB-36	Solid	7/27/2009	☐	A											
0907685-008	PCB-37	Solid	7/27/2009	☐	A											
0907685-009	PCB-38	Solid	7/27/2009	☐	A											
0907685-010	PCB-39	Solid	7/27/2009	☐	A											
0907685-011	PCB-40	Solid	7/27/2009	☐	A											

Test Legend:

1	8082A_PCB_Solid	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Melissa Valles

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **RGA Environmental** Date and Time Received: **7/27/2009 1:54:43 PM**

Project Name: **#BRES 21720; Sealant Replacement, 100 California** Checklist completed and reviewed by: Melissa Valles

WorkOrder N°: **0907685** Matrix Solid Carrier: Rob Pringle (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 5°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8082

W.O. Sample Matrix: Solid | QC Matrix: Soil | BatchID: 44694 | WorkOrder 0907563

EPA Method SW8082 | **Extraction SW3550C** | **Spiked Sample ID: 0907605-004A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Aroclor1260	ND	0.075	130	121	6.93	111	114	2.24	70 - 130	20	70 - 130	20
%SS:	118	0.050	115	114	0.517	120	121	0.812	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 44694 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0907563-003A	07/21/09	07/22/09	07/28/09 1:25 AM	0907563-007A	07/21/09	07/22/09	07/28/09 2:20 AM
0907563-011A	07/21/09	07/22/09	07/28/09 3:15 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

0907563

RGA ENVIRONMENTAL

__PM – S. Steiner steff@rgaenv.com fax: 510.899.7051
__PM – K. Schroeter karin@rgaenv.com fax: 510.899.7063
__PM – K. Pilgrim ken@rgaenv.com fax: 510.899.7053
__PM – B. Weisbrod brent.weisbrod@rgaenv.com fax: 510.899.7062
__PM – T. Kattchee tedd@rgaenv.com fax: 510.899.7070
X PM – B. Gils bob@rgaenv.com fax: 510.899.7050

Environmental SAMPLE DATA SHEET

Project Name/Address: 100 California St. PO #:

RGA Project #: BRES 21720 Sampled By: Mike B Sampling Date: 7/21/09

Sample(s) Sent To ☐ EM Lab ☐ Other: Mr Campbell Turnaround Time: __Rush __24-Hr X Standard

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* Shipping Requirements: __Priority __Standard Overnight __2-Day

ADDITIONAL REPORT RECIPIENT(S):

Sample I.D.	Type	Sample Description: Air	Bulk	Swab	Tape Lift		Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	~~Culture~~ CAM17	~~Direct Exam~~ PCBs	Hold	Analysis
PCB-1							14th Fl E side Curtain to Vent Column (1)				X			
PCB-2							14th Fl E side above down louvers (2)						X	
PCB-3							14th Fl E side (3)					X		
[redacted]							[redacted]							
PCB-5							12th Fl E side (6)						X	
[redacted]							[redacted]							
PCB-7							12th Fl E side (8) (9)				X			

Relinquished By: Mike B Signature: Date/Time: 7/21/09

Received By: Maria Venegas Signature: Maria Venegas Date/Time: 7/22/09 0800

Relinquished By: ICE/T=4.0 Signature: Date/Time:

Received By: GOOD CONDITION ✓ APPROPRIATE CONTAINERS ✓ HEAD SPACE ABSENT ___ DECHLORINATED IN LAB ___ PRESERVED IN LAB ___ PRESERVATION VOAS | O & G | METALS | OTHER Signature: Date/Time:

REC'D SEALED & INTACT VIA Golden State ON

RGA ENVIRONMENTAL

__PM – S. Steiner steff@rgaenv.com fax: 510.899.7051

__PM – K. Schroeter karin@rgaenv.com fax: 510.899.7063

__PM – K. Pilgrim ken@rgaenv.com fax: 510.899.7053

__PM – B. Weisbrod brent.weisbrod@rgaenv.com fax: 510.899.7062

__PM – T. Katichea tedd@rgaenv.com fax: 510.899.7070

PM – B. Gils bob@rgaenv.com fax: 510.899.7068

Environmental SAMPLE DATA SHEET

Project Name/Address: 100 California Street PO #:

RGA Project #: BRES21720 Sampled By: Sampling Date: 7-21-09

Sample(s) Sent To ☐ EM Lab ☐ Other: McCampbell Turnaround Time: __Rush __24-Hr (Standard)

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* Shipping Requirements: __Priority __Standard Overnight __2-Day

ADDITIONAL REPORT RECIPIENT(S):

Sample I.D.	Type	Sample Description: Air	Bulk	Swab	Tape Lift		Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	Culture CAM17	~~Direct Exam~~ PCBs	HOLD	Analysis
PCB-8							8th Fl E side (1)						X	
PCB-9							8th Fl E side (3)					X		
[redacted]							[redacted]							
[redacted]							[redacted]							
PCB-12							4th Fl E side (1)						X	
PCB-13							4th Fl E side (3)				X			
[redacted]							[redacted]							

Relinquished By: Mike B Signature: Date/Time: 7/21/09

Received By: R Painter Signature: RP Date/Time: 7/21/09

Relinquished By: Signature: Date/Time:

Received By: Maria Venegas Signature: Maria V-G Date/Time: 7/22/09 0800

RGA ENVIRONMENTAL
__PM – S. Steiner steff@rgaenv.com fax: 510.899.7051
__PM – K. Schroeter karin@rgaenv.com fax: 510.899.7063
__PM – K. Pilgrim ken@rgaenv.com fax: 510.899.7053
__PM – B. Weisbrod brent.weisbrod@rgaenv.com fax: 510.899.7062
__PM – T. Kattchee tadd@rgaenv.com fax: 510.899.7070
__PM – B. Gils bob@rgaenv.com fax: 510.899.7060

Environmental SAMPLE DATA SHEET

Project Name/Address: 100 California Street PO #:
RGA Project #: BLES21720 Sampled By: MB Sampling Date:
Sample(s) Sent To ☐ EM Lab ☒ Other: McCampbell Turnaround Time: __Rush __24-Hr (Standard)
FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* Shipping Requirements: __Priority __Standard Overnight __2-Day
ADDITIONAL REPORT RECIPIENT(S):

Sample I.D.	Type	Sample Description: Air	Bulk	Swab	Tape Lift		Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	~~Culture~~ CAM17	~~Direct Exam~~ PCBs	HOLD	Analysis
[redacted]							[redacted]							
PCB-16							4th Fl E side (9)						X	
PCB-17							4th Fl E side (10)					X		
PCB-18							12th Fl E side (10)						X	
PCB-19							14th Fl N side (7)				X			
PCB-20							14th Fl N side (10)						X	
PCB-21							16th Fl N side (9)				X			

Relinquished By: MkB Signature: Date/Time: 7/21/09
Received By: RParker Signature: RP Date/Time: 7/21/09
Relinquished By: Signature: Date/Time:
Received By: Maria Venegas Signature: Date/Time: 7/22/09 0800

RGA ENVIRONMENTAL

__PM – S. Steiner steff@rgaenv.com fax: 510.899.7051

__PM – K. Schroeter karin@rgaenv.com fax: 510.899.7063

__PM – K. Pilgrim ken@rgaenv.com fax: 510.899.7053

__PM – B. Weisbrod brent.weisbrod@rgaenv.com fax: 510.899.7062

__PM – T. Kattchee tedd@rgaenv.com fax: 510.899.7070

PM – B. Gils bob@rgaenv.com fax: 510.899.7050

Environmental SAMPLE DATA SHEET

Project Name/Address: 100 California Street PO #:

RGA Project #: BRES21720 Sampled By: MB Sampling Date: 7/21/09

Sample(s) Sent To ☐ EM Lab ☑ Other: McCampbell Turnaround Time: __Rush __24-Hr (Standard)

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* Shipping Requirements: ___ Priority __Standard Overnight __2-Day

ADDITIONAL REPORT RECIPIENT(S):

Sample I.D.	Type	Sample Description: Air	Bulk	Swab	Tape Lift		Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	~~Culture~~ CAM17	~~Direct Exam~~ PCBs	HOLD	Analysis
PCB-22							10th Fl N side (1)						X	
PCB-23							10th Fl N side (3)				X			
[redacted]							[redacted]							
PCB-25							10th Fl N side (EP)(11)						X	
PCB-26							5th Fl N side (11)						X	
PCB-27							5th Fl N side (9)						X	
[redacted]							[redacted]							

Relinquished By: Mike B Signature: Date/Time: 7/21/09

Received By: E Paiste Signature: EP Date/Time: 7/21/09

Relinquished By: Signature: Date/Time:

Received By: Maria Venegas Signature: Maria V Date/Time: 7/22/09 0800

RGA ENVIRONMENTAL

__PM – S. Steiner
steff@rgaenv.com
fax: 510.899.7051

__PM – K. Schroeter
karin@rgaenv.com
fax: 510.899.7063

__PM – K. Pilgrim
ken@rgaenv.com
fax: 510.899.7053

__PM – B. Weisbrod
brent.weisbrod@rgaenv.com
fax: 510.899.7062

__PM – T. Kaltchee
tedd@rgaenv.com
fax: 510.899.7070

__PM – B. Gils
bob@rgaenv.com
fax: 510.899.7050

Environmental SAMPLE DATA SHEET

Project Name/Address: 100 California Street PO #:

RGA Project #: BRES21720 Sampled By: Sampling Date:

Sample(s) Sent To ☐ EM Lab ☐ Other: ☐ Turnaround Time: ___Rush ___24-Hr ___Standard

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* Shipping Requirements: ___ Priority __Standard Overnight __2-Day

ADDITIONAL REPORT RECIPIENT(S):

Sample I.D.	Type	Sample Description					Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	Culture	Direct Exam	HOLD	Analysis
		Air	Bulk	Swab	Tape Lift									
PCB-29							3rd Fl N side (11)						X	

Relinquished By: Signature: Date/Time: 7/21/09

Received By: Signature: Date/Time: 7/21/09

Relinquished By: Signature: Date/Time:

Received By: Signature: Date/Time: 7/22/09 0800

McCampbell Analytical, Inc.
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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

WORK ORDER SUMMARY

Client Name: RGA ENVIRONMENTAL
Project: #BRES 21720; 100 California Street
Comments:

QC Level: LEVEL2
Client Contact: Bob Gils
Contact's Email: bob@rgaenv.com

Work Order: 0907563
Date Received: 07/22/09

☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
0907563-001A	PCB-1	Solid	EPA 8082 (PCB Only)	CAM-17 1	Bag	7/21/2009	5 days		☐	
0907563-002A	PCB-2	Solid	EPA 8082 (PCB Only)	ARCHIVE 1	Bag	7/21/2009	5 days		☐	
0907563-003A	PCB-3	Solid	EPA 8082 (PCB Only)	PCB 1	Bag	7/21/2009	5 days		☐	
0907563-004A	PCB-5	Solid	EPA 8082 (PCB Only)	ARCHIVE 1	Bag	7/21/2009	5 days		☐	
0907563-005A	PCB-7	Solid	EPA 8082 (PCB Only)	CAM-17 1	Bag	7/21/2009	5 days		☐	
0907563-006A	PCB-8	Solid	EPA 8082 (PCB Only)	ARCHIVE 1	Bag	7/21/2009	5 days		☐	
0907563-007A	PCB-9	Solid	EPA 8082 (PCB Only)	PCB 1	Bag	7/21/2009	5 days		☐	
0907563-008A	PCB-12	Solid	EPA 8082 (PCB Only)	ARCHIVE 1	Bag	7/21/2009	5 days		☐	
0907563-009A	PCB-13	Solid	EPA 8082 (PCB Only)	CAM-17 1	Bag	7/21/2009	5 days		☐	
0907563-010A	PCB-16	Solid	EPA 8082 (PCB Only)	ARCHIVE 1	Bag	7/21/2009	5 days		☐	
0907563-011A	PCB-17	Solid	EPA 8082 (PCB Only)	PCB 1	Bag	7/21/2009	5 days		☐	
0907563-012A	PCB-18	Solid	EPA 8082 (PCB Only)	ARCHIVE 1	Bag	7/21/2009	5 days		☐	
0907563-013A	PCB-19	Solid	EPA 8082 (PCB Only)	CAM-17 1	Bag	7/21/2009	5 days		☐	
0907563-014A	PCB-20	Solid	EPA 8082 (PCB Only)	ARCHIVE	Bag	7/21/2009	5 days		☐	
0907563-015A	PCB-21	Solid	EPA 8082 (PCB Only)	CAM-17 1	Bag	7/21/2009	5 days		☐	
0907563-016A	PCB-22	Solid	EPA 8082 (PCB Only)	ARCHIVE	Bag	7/21/2009	5 days		☐	
0907563-017A	PCB-23	Solid	EPA 8082 (PCB Only)	CAM-17 1	Bag	7/21/2009	5 days		☐	
0907563-018A	PCB-25	Solid	EPA 8082 (PCB Only)	ARCHIVE 1	Bag	7/21/2009	5 days		☐	

Bottle Legend:
Bag =

Change Assessment Robert E. Gils Robert E. Gils 7-22-09

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

WORK ORDER SUMMARY

Client Name: RGA ENVIRONMENTAL
Project: #BRES 21720; 100 California Street
Comments:

QC Level: LEVEL2
Client Contact: Bob Gils
Contact's Email: bob@rgaenv.com

Work Order: 0907563
Date Received: 07/22/09

☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
0907563-019A	PCB-26	Solid	EPA 8082 (PCB Only)	ARCHIVE 1	Bag	7/21/2009	5 days		☐	
0907563-020A	PCB-27	Solid	EPA 8082 (PCB Only)	ARCHIVE	Bag	7/21/2009	5 days		☐	
0907563-021A	PCB-29	Solid	EPA 8082 (PCB Only)	ARCHIVE 1	Bag	7/21/2009	5 days		☐	

Change Assessment: Robert E Gils Robert E Gils 7-22-09

Bottle Legend:
Bag =

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **RGA Environmental**
Date and Time Received: **07/22/09 8:30:45 AM**
Project Name: **#BRES 21720; 100 California Street**
Checklist completed and reviewed by: Maria Venegas
WorkOrder N°: **0907563** Matrix Solid
Carrier: Golden State Overnight

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☐	No ☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp:		NA ☑
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☐	No ☑	

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0907563 **ClientCode: RGAE**

☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Bob Gils
RGA Environmental
1466 66th Street
Emeryville, CA 94608
(510) 547-7771 FAX (510) 547-1983

Email: bob@rgaenv.com
cc:
PO:
ProjectNo: #BRES 21720; 100 California Street

Bill to:
Andrea Peacock
RGA Environmental
1466 66th Street
Emeryville, CA 94608
invoices@rgaenv.com

Requested TAT: 5 days

Date Received: **07/22/2009**
Date Printed: **07/22/2009**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0907563-001	PCB-1	Solid	7/21/2009	☐		A										
0907563-003	PCB-3	Solid	7/21/2009	☐	A											
0907563-005	PCB-7	Solid	7/21/2009	☐		A										
0907563-007	PCB-9	Solid	7/21/2009	☐	A											
0907563-009	PCB-13	Solid	7/21/2009	☐		A										
0907563-011	PCB-17	Solid	7/21/2009	☐	A											
0907563-013	PCB-19	Solid	7/21/2009	☐		A										
0907563-015	PCB-21	Solid	7/21/2009	☐		A										
0907563-017	PCB-23	Solid	7/21/2009	☐		A										

Test Legend:

1	8082A_PCB_Solid	2	CAM17MS_Solid	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Maria Venegas

Comments: Changes made 7/22/09 3:30pm

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

RGA Environmental	Client Project ID: #BRES 21720; 100 California Street	Date Sampled: 07/21/09
		Date Received 07/22/09
1466 66th Street	Client Contact: Bob Gils	Date Extracted 07/22/09
Emeryville, CA 94608	Client P.O.:	Date Analyzed 07/24/09-07/27/09

CAM / CCR 17 Metals*

Lab ID	0907563-001A	0907563-005A	0907563-009A	0907563-013A	Reporting Limit for DF =1; ND means not detected above the reporting limit	
Client ID	PCB-1	PCB-7	PCB-13	PCB-19		
Matrix	S	S	S	S	S	W
Extraction Type	TOTAL	TOTAL	TOTAL	TOTAL	mg/Kg	mg/L

ICP-MS Metals, Concentration*

Analytical Method: 6020A Extraction Method: SW3050B Work Order: 0907563

Dilution Factor	1	1	1	1	1	1
Antimony	ND<0.76	ND<0.94	ND	ND	0.5	NA
Arsenic	ND<0.76	ND<0.94	ND	ND	0.5	NA
Barium	ND<7.6	130	780	ND	5.0	NA
Beryllium	ND<0.76	ND<0.94	ND	ND	0.5	NA
Cadmium	0.47	1.4	ND	0.73	0.25	NA
Chromium	3.6	55	0.65	ND	0.5	NA
Cobalt	ND<0.76	2.4	ND	ND	0.5	NA
Copper	1.6	31	0.71	0.61	0.5	NA
Lead	4.5	94	2.4	16	0.5	NA
Mercury	ND<0.076	0.10	0.084	ND	0.05	NA
Molybdenum	ND<0.76	ND<0.94	ND	ND	0.5	NA
Nickel	2.0	16	ND	ND	0.5	NA
Selenium	ND<0.76	ND<0.94	ND	ND	0.5	NA
Silver	ND<0.76	ND<0.94	ND	ND	0.5	NA
Thallium	ND<0.76	ND<0.94	ND	ND	0.5	NA
Vanadium	ND<0.76	ND<0.94	ND	ND	0.5	NA
Zinc	ND<7.6	81	5.1	ND	5.0	NA
%SS:	104	144	141	136		
Comments	a7	c1,a7	c1	c1		

*water samples are reported in µg/L, product/oil/non-aqueous liquid samples and all TCLP / STLC / DISTLC / SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter.

means surrogate diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

TOTAL = acid digestion.
WET = Waste Extraction Test (STLC).
DI WET = Waste Extraction Test using de-ionized water.

a7) reporting limit raised due to insufficient sample amount
c1) estimated value due to high surrogate recovery, caused by matrix interference.

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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Telephone: 877-252-9262 Fax: 925-252-9269

RGA Environmental	Client Project ID: #BRES 21720; 100 California Street	Date Sampled: 07/21/09
		Date Received 07/22/09
1466 66th Street	Client Contact: Bob Gils	Date Extracted 07/22/09
Emeryville, CA 94608	Client P.O.:	Date Analyzed 07/24/09-07/27/09

CAM / CCR 17 Metals*

Lab ID	0907563-015A	0907563-017A			Reporting Limit for DF =1; ND means not detected above the reporting limit	
Client ID	PCB-21	PCB-23				
Matrix	S	S			S	W
Extraction Type	TOTAL	TOTAL			mg/Kg	mg/L

ICP-MS Metals, Concentration*

Analytical Method: 6020A Extraction Method: SW3050B Work Order: 0907563

Dilution Factor	1	1			1	1
Antimony	ND	ND<0.71			0.5	NA
Arsenic	ND	ND<0.71			0.5	NA
Barium	160	1100			5.0	NA
Beryllium	ND	ND<0.71			0.5	NA
Cadmium	1.3	ND<0.36			0.25	NA
Chromium	63	1.1			0.5	NA
Cobalt	2.7	ND<0.71			0.5	NA
Copper	54	1.9			0.5	NA
Lead	150	6.3			0.5	NA
Mercury	0.13	0.10			0.05	NA
Molybdenum	0.78	ND<0.71			0.5	NA
Nickel	16	0.97			0.5	NA
Selenium	ND	ND<0.71			0.5	NA
Silver	ND	ND<0.71			0.5	NA
Thallium	ND	ND<0.71			0.5	NA
Vanadium	0.70	0.73			0.5	NA
Zinc	110	12			5.0	NA
%SS:	121	140				

Comments		c1,a7			

*water samples are reported in µg/L, product/oil/non-aqueous liquid samples and all TCLP / STLC / DISTLC / SPLP extracts are reported in mg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter.

means surrogate diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

TOTAL = acid digestion.
WET = Waste Extraction Test (STLC).
DI WET = Waste Extraction Test using de-ionized water.

a7) reporting limit raised due to insufficient sample amount
c1) estimated value due to high surrogate recovery, caused by matrix interference.

0907563

RGA ENVIRONMENTAL

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__PM – B. Weisbrod brent.weisbrod@rgaenv.com fax: 510.899.7062

__PM – T. Kaltchae tedd@rgaenv.com fax: 510.899.7070

X PM – B. Gils bob@rgaenv.com fax: 510.899.7050

Environmental SAMPLE DATA SHEET

Project Name/Address: 100 California St. PO #:

RGA Project #: BRES 21720 Sampled By: Mike B Sampling Date: 7/21/09

Sample(s) Sent To ☐ EM Lab ☐ Other: ☒ McCampbell Turnaround Time: __Rush __24-Hr X Standard

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* Shipping Requirements: __Priority __Standard Overnight __2-Day

ADDITIONAL REPORT RECIPIENT(S):

Sample I.D.	Type	Sample Description: Air	Bulk	Swab	Tape Lift		Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm²)	~~Culture~~ CAM17	~~Direct Exam~~ PCBs	Hold	Analysis
PCB-1							14th Fl @ E side Granite to Vert Column (1)				X			
PCB-2							14th Fl @ E side above down louvres (2)						X	
PCB-3							14th Fl E side (3)					X		
[redacted]							[redacted]							
PCB-5							12th Fl E side (6)						X	
[redacted]							[redacted]							
PCB-7							12th Fl E side ~~(8)~~ (9)				X			

Relinquished By: Mike B Signature: [signature] Date/Time: 7/21/09

Received By: Maria Venegas Signature: [signature] Date/Time: 7/22/09 0800

Relinquished By: Signature: Date/Time:

Received By: Signature: Date/Time:

ICE/t° 4.0
GOOD CONDITION ✓ APPROPRIATE
HEAD SPACE ABSENT CONTAINERS ✓
DECHLORINATED IN LAB ___ PRESERVED IN LAB ___
PRESERVATION ___ VOAS | O & G | METALS | OTHER

REC'D SEALED & INTACT VIA Golden State ON

RGA
ENVIRONMENTAL

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__PM – B. Gils
bob@rgaenv.com
fax: 510.899.7060

Environmental SAMPLE DATA SHEET

Project Name/Address: 100 California Street PO #:

RGA Project #: BRES21720 Sampled By: Sampling Date: 7-21-09

Sample(s) Sent To ☐ EM Lab ☑ Other: McCampbell Turnaround Time: __Rush __24-Hr (Standard)

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* Shipping Requirements: __Priority __Standard Overnight __2-Day

ADDITIONAL REPORT RECIPIENT(S):

Sample I.D.	Type	Sample Description: Air	Bulk	Swab	Tape Lift		Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	~~Culture~~ CAMIV	~~Direct Exam~~ PCBs	HOLD	Analysis
PCB-8							8th Fl E side (1)						X	
PCB-9							8th Fl E side (3)					X		
[redacted]							[redacted]							
[redacted]							[redacted]							
PCB-12							4th Fl E side (1)						X	
PCB-13							4th Fl E side (3)				X			
[redacted]							[redacted]							

Relinquished By: Mike B Signature: Date/Time: 7/21/09

Received By: R Painter Signature: RP Date/Time: 7/21/09

Relinquished By: Signature: Date/Time:

Received By: Maria Venegas Signature: Date/Time: 7/22/09 0800

RGA ENVIRONMENTAL

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__PM – T. Kattchee
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fax: 510.899.7070

__PM – B. Gils
bob@rgaenv.com
fax: 510.899.7060

Environmental SAMPLE DATA SHEET

Project Name/Address: 100 California Street PO #:

RGA Project #: BLES21720 Sampled By: MB Sampling Date:

Sample(s) Sent To ☐ EM Lab ☒ Other: Ma Campbell Turnaround Time: __Rush __24-Hr (Standard)

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* Shipping Requirements: __Priority __Standard Overnight __2-Day

ADDITIONAL REPORT RECIPIENT(S):

Sample I.D.	Type	Sample Description: Air	Bulk	Swab	Tape Lift		Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	~~Culture~~ CAM17	~~Direct Exam~~ PCBs	HOLD	Analysis
[redacted]							[redacted]							
PCB-16							4th Fl E side (9)						X	
PCB-17							4th Fl E side (10)					X		
PCB-18							12th Fl E side (10)						X	
PCB-19							14th Fl N side (7)				X			
PCB-20							14th Fl N side (10)						X	
PCB-21							16th Fl N side (9)				X			

Relinquished By: Mike B Signature: Date/Time: 7/21/09

Received By: R Pauler Signature: RP Date/Time: 7/21/09

Relinquished By: Signature: Date/Time:

Received By: Maria Venegas Signature: Date/Time: 7/22/09 0800

RGA ENVIRONMENTAL

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__PM – B. Weisbrod brent.weisbrod@rgaenv.com fax: 510.899.7062

__PM – T. Kattchee tedd@rgaenv.com fax: 510.899.7070

__PM – B. Gils bob@rgaenv.com fax: 510.899.7050

Environmental SAMPLE DATA SHEET

Project Name/Address: 100 California Street PO #:

RGA Project #: BRES21720 Sampled By: MB Sampling Date: 7/21/09

Sample(s) Sent To ☐ EM Lab ☒ Other: McCampbell Turnaround Time: __Rush __24-Hr (Standard)

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* Shipping Requirements: __Priority __Standard Overnight __2-Day

ADDITIONAL REPORT RECIPIENT(S):

Sample I.D.	Type	Sample Description: Air	Bulk	Swab	Tape Lift		Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	~~Culture~~ CAMIT	~~Direct Exam~~ PCBs	HOLD	Analysis
PCB-22							10th Fl N side (1)						X	
PCB-23							10th Fl N side (3)				X			
[redacted]							[redacted]							
PCB-25							10th Fl N side (10)(11)						X	
PCB-26							5th Fl N side (11)						X	
PCB-27							5th Fl N side (9)						X	
[redacted]							[redacted]							

Relinquished By: Mike B Signature: Date/Time: 7/21/09

Received By: R Painter Signature: RP Date/Time: 7/21/09

Relinquished By: Signature: Date/Time:

Received By: Maria Venegas Signature: Date/Time: 7/22/09 0800

RGA ENVIRONMENTAL

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__PM – K. Pilgrim
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__PM – B. Welsbrod
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__PM – T. Kattchee
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fax: 510.899.7070

PM – B. Gils
bob@rgaenv.com
fax: 510.899.7050

Environmental SAMPLE DATA SHEET

Project Name/Address: 100 California Street PO #:

RGA Project #: BRES21720 Sampled By: Sampling Date:

Sample(s) Sent To ☐ EM Lab ☐ Other: ☐ Turnaround Time: __Rush __24-Hr __Standard

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* Shipping Requirements: __ Priority __Standard Overnight __2-Day

ADDITIONAL REPORT RECIPIENT(S):

Sample I.D.	Type	Sample Description					Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	Culture	Direct Exam	HOLD	Analysis
		Air	Bulk	Swab	Tape Lift									
PCB-29							3rd Fl N side (11)						X	

Relinquished By: Signature: Date/Time: 7/2/09

Received By: K Parker Signature: Date/Time: 7/2/09

Relinquished By: Signature: Date/Time:

Received By: Maria Venegas Signature: Date/Time: 7/22/09 0800

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WORK ORDER SUMMARY

Client Name: RGA ENVIRONMENTAL
Project: #BRES 21720; 100 California Street
Comments:

QC Level: LEVEL2
Client Contact: Bob Gils
Contact's Email: bob@rgaenv.com

Work Order: 0907563
Date Received: 07/22/09

☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
0907563-001A	PCB-1	Solid	EPA 8082 (PCB Only)	CAM-17 1	Bag	7/21/2009	5 days		☐	
0907563-002A	PCB-2	Solid	EPA 8082 (PCB Only)	ARCHIVE 1	Bag	7/21/2009	5 days		☐	
0907563-003A	PCB-3	Solid	EPA 8082 (PCB Only)	PCB 1	Bag	7/21/2009	5 days		☐	
0907563-004A	PCB-5	Solid	EPA 8082 (PCB Only)	ARCHIVE 1	Bag	7/21/2009	5 days		☐	
0907563-005A	PCB-7	Solid	EPA 8082 (PCB Only)	CAM-17 1	Bag	7/21/2009	5 days		☐	
0907563-006A	PCB-8	Solid	EPA 8082 (PCB Only)	ARCHIVE 1	Bag	7/21/2009	5 days		☐	
0907563-007A	PCB-9	Solid	EPA 8082 (PCB Only)	PCB 1	Bag	7/21/2009	5 days		☐	
0907563-008A	PCB-12	Solid	EPA 8082 (PCB Only)	ARCHIVE 1	Bag	7/21/2009	5 days		☐	
0907563-009A	PCB-13	Solid	EPA 8082 (PCB Only)	CAM-17 1	Bag	7/21/2009	5 days		☐	
0907563-010A	PCB-16	Solid	EPA 8082 (PCB Only)	ARCHIVE 1	Bag	7/21/2009	5 days		☐	
0907563-011A	PCB-17	Solid	EPA 8082 (PCB Only)	PCB 1	Bag	7/21/2009	5 days		☐	
0907563-012A	PCB-18	Solid	EPA 8082 (PCB Only)	ARCHIVE 1	Bag	7/21/2009	5 days		☐	
0907563-013A	PCB-19	Solid	EPA 8082 (PCB Only)	CAM-17 1	Bag	7/21/2009	5 days		☐	
0907563-014A	PCB-20	Solid	EPA 8082 (PCB Only)	ARCHIVE	Bag	7/21/2009	5 days		☐	
0907563-015A	PCB-21	Solid	EPA 8082 (PCB Only)	CAM-17 1	Bag	7/21/2009	5 days		☐	
0907563-016A	PCB-22	Solid	EPA 8082 (PCB Only)	ARCHIVE	Bag	7/21/2009	5 days		☐	
0907563-017A	PCB-23	Solid	EPA 8082 (PCB Only)	CAM-17 1	Bag	7/21/2009	5 days		☐	
0907563-018A	PCB-25	Solid	EPA 8082 (PCB Only)	ARCHIVE 1	Bag	7/21/2009	5 days		☐	

Bottle Legend:
Bag =

Change Assessment Robert E. Gils Robert E. Gils 7-22-09

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Telephone: 877-252-9262 Fax: 925-252-9269

WORK ORDER SUMMARY

Client Name: RGA ENVIRONMENTAL
Project: #BRES 21720; 100 California Street
Comments:

QC Level: LEVEL2
Client Contact: Bob Gils
Contact's Email: bob@rgaenv.com

Work Order: 0907563
Date Received: 07/22/09

☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Number of Containers	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
0907563-019A	PCB-26	Solid	EPA 8082 (PCB Only)	ARCHIVE 1	Bag	7/21/2009	5 days		☐	
0907563-020A	PCB-27	Solid	EPA 8082 (PCB Only)	ARCHIVE	Bag	7/21/2009	5 days		☐	
0907563-021A	PCB-29	Solid	EPA 8082 (PCB Only)	ARCHIVE 1	Bag	7/21/2009	5 days		☐	

Change Assessment: Robert E Gils Robert E Gils 7-22-09

Bottle Legend:
Bag =

RGA ENVIRONMENTAL

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X PM – B. Gils
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fax: 510.899.7050

Environmental SAMPLE DATA SHEET

Project Name/Address: 100 California St. PO #:

RGA Project #: BRES 2172 Sampled By: Mike B Sampling Date: 7/21/09

Sample(s) Sent To ☐ EM Lab ☐ Other: ☒ McCampbell Turnaround Time: ___Rush ___24-Hr X Standard

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* Shipping Requirements: ___ Priority __Standard Overnight __2-Day

ADDITIONAL REPORT RECIPIENT(S):

Sample I.D.	Type	Sample Description: Air	Bulk	Swab	Tape Lift		Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	Culture	Direct Exam		Analysis
PCB-1							14th Fl E side @ Granite to Vert Column (1)					X		
PCB-2							14th Fl. @ E side above down louvers (2)							
PCB-3							14th Fl E side (3)							
~~PCB-4~~							14th Fl E side (4-5) Column							
PCB-5							12th Fl E side (6)							
~~PCB-6~~							12th Fl E side (7)							
PCB-7							12th Fl E side (8) (9)							

Relinquished By: Mike B Signature: Date/Time: 7/21/09

Received By: Signature: Date/Time:

Relinquished By: Signature: Date/Time:

Received By: Signature: Date/Time:

RGA ENVIRONMENTAL

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__PM – K. Pilgrim
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__PM – B. Weisbrod
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fax: 510.899.7062

__PM – T. Kattchee
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fax: 510.899.7070

__PM – B. Gils
bob@rgaenv.com
fax: 510.899.7050

Environmental SAMPLE DATA SHEET

PO #: _____

Project Name/Address: _____ Sampling Date: _____

RGA Project #: _____ Sampled By: _____ Turnaround Time: ___Rush ___24-Hr ___Standard

Sample(s) Sent To ☐ EM Lab ☐ Other: _____ ☐ Shipping Requirements: ___ Priority __Standard Overnight __2-Day

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)*

ADDITIONAL REPORT RECIPIENT(S): _____

Sample I.D.	Type	Sample Description					Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	Culture	Direct Exam		Analysis
		Air	Bulk	Swab	Tape Lift									
PCB-8							8th Fl E side (1)							
PCB-9							8th Fl E side (3)							
~~PCB-10~~							8th Fl E side (4-5)							
~~PCB-11~~							8th Fl E side (7)							
PCB-12							4th Fl E side (1)							
PCB-13							4th Fl E side (3)							
~~PCB-14~~							4th Fl E side (4-5)							

Relinquished By: Mike B Signature: _____ Date/Time: 7/21/09

Received By: _____ Signature: _____ Date/Time: _____

Relinquished By: _____ Signature: _____ Date/Time: _____

Received By: _____ Signature: _____ Date/Time: _____

RGA
ENVIRONMENTAL

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__PM – K. Pilgrim
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__PM – B. Weisbrod
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tedd@rgaenv.com
fax: 510.899.7070

__PM – B. Gils
bob@rgaenv.com
fax: 510.899.7050

Environmental SAMPLE DATA SHEET

PO # :_____

Project Name/Address: _____ Sampling Date:_____

RGA Project #:_____ Sampled By:_____ Turnaround Time: ___Rush ___24-Hr ___Standard

Sample(s) Sent To ☐ EM Lab ☐ Other:_____ ☐ Shipping Requirements: ___ Priority __Standard Overnight __2-Day

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)*

ADDITIONAL REPORT RECIPIENT(S):_____

Sample I.D.	Type	Sample Description					Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	Culture	Direct Exam		Analysis
		Air	Bulk	Swab	Tape Lift									
~~PCB-15~~							4th Fl E side (7)							
PCB-16							4th Fl E side (9)							
PCB-17							4th Fl E side (10)							
PCB-18							12th Fl E side (10)							
PCB-19							14th Fl N side (7)							
PCB-20							14th Fl N side (10)							
PCB-21							16th Fl N side (9)							

Relinquished By: Mike B Signature: _____ Date/Time: 7/21/09

Received By: _____ Signature: _____ Date/Time: _____

Relinquished By: _____ Signature: _____ Date/Time: _____

Received By: _____ Signature: _____ Date/Time: _____

RGA ENVIRONMENTAL

__PM – S. Steiner
steff@rgaenv.com
fax: 510.899.7051

__PM – K. Schroeter
karin@rgaenv.com
fax: 510.899.7063

__PM – K. Pilgrim
ken@rgaenv.com
fax: 510.899.7053

__PM – B. Weisbrod
brent.weisbrod@rgaenv.com
fax: 510.899.7062

__PM – T. Kattchee
tedd@rgaenv.com
fax: 510.899.7070

__PM – B. Gils
bob@rgaenv.com
fax: 510.899.7050

Environmental SAMPLE DATA SHEET

PO # :

Project Name/Address: Sampling Date:

RGA Project #: Sampled By:

Turnaround Time: ___Rush ___24-Hr ___Standard

Sample(s) Sent To ☐ EM Lab ☐ Other: ☐

Shipping Requirements: ___ Priority __Standard Overnight __2-Day

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)*

ADDITIONAL REPORT RECIPIENT(S):

Sample I.D.	Type	Sample Description					Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	Culture	Direct Exam		Analysis
		Air	Bulk	Swab	Tape Lift									
PCB-22							10th Fl N side (1)							
PCB-23							10th Fl N side (3)							
~~PCB-24~~							10th Fl N side (7)							
PCB-25							10th Fl N side (Kit)(11)							
PCB-26							5th Fl N side (11)							
PCB-27							5th Fl N side (9)							
~~PCB-28~~							5th Fl N side (7)							

Relinquished By: Mike B Signature: Date/Time: 7/22/04

Received By: Signature: Date/Time:

Relinquished By: Signature: Date/Time:

Received By: Signature: Date/Time:

RGA
ENVIRONMENTAL

__PM – S. Steiner
steff@rgaenv.com
fax: 510.899.7051

__PM – K. Schroeter
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tedd@rgaenv.com
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__PM – B. Gils
bob@rgaenv.com
fax: 510.899.7050

Environmental SAMPLE DATA SHEET

PO # :_____

Project Name/Address: _____ Sampling Date:_____

RGA Project #:_____ Sampled By:_____ Turnaround Time: ___Rush ___24-Hr ___Standard

Sample(s) Sent To ☐ EM Lab ☐ Other:_____ ☐ Shipping Requirements: ___ Priority __Standard Overnight __2-Day

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)*

ADDITIONAL REPORT RECIPIENT(S):_____

Sample I.D.	Type	Sample Description					Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	Culture	Direct Exam		Analysis
		Air	Bulk	Swab	Tape Lift									
PCB-29							3rd Fl N side (11)							

Relinquished By: _____ Signature:_____ Date/Time: 4/21/09

Received By: _____ Signature:_____ Date/Time:_____

Relinquished By: _____ Signature:_____ Date/Time:_____

Received By: _____ Signature:_____ Date/Time:_____

RGA
ENVIRONMENTAL

__PM – S. Steiner
steff@rgaenv.com
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__PM – K. Schroeter
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__PM – K. Pilgrim
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__PM – B. Weisbrod
brent.weisbrod@rgaenv.com
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__PM – T. Kattchee
tedd@rgaenv.com
fax: 510.899.7070

☒ PM – B. Gils
bob@rgaenv.com
fax: 510.899.7050

Environmental SAMPLE DATA SHEET

Project Name/Address: Sealant Replacement, 100 California PO #:

RGA Project #: BRES 21720 Sampled By: Mike B Sampling Date: 7/27/09

Sample(s) Sent To ☐ EM Lab ☒ Other: McCampbell Turnaround Time: __Rush __24-Hr __Standard

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* Shipping Requirements: __Priority __Standard Overnight __2-Day

ADDITIONAL REPORT RECIPIENT(S):

Sample I.D.	Type	Sample Description					Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	Culture	Direct Exam		Analysis
		Air	Bulk	Swab	Tape Lift									
PCB-30	PCB		X				14th Fl W side (2)							PCB
PCB-31	PCB		↓				11th Fl. - W side (1)							↓
PCB-32	Arch.						11th Fl. W side (3)							
PCB-33	CAM-17						11th Fl. W side (4-5)							
PCB-34	PCB						11th Fl. W side (9)							
PCB-35	CAM-17						11th Fl. W side (10)							
PCB-36	PCB		↓				11th Fl. W side (11)							↓

Relinquished By: Mike B Signature: Date/Time: 7/27/09

Received By: Signature: Date/Time:

Relinquished By: Signature: Date/Time:

Received By: Signature: Date/Time:

RGA
ENVIRONMENTAL

__PM – S. Steiner
steff@rgaenv.com
fax: 510.899.7051

__PM – K. Schroeter
karin@rgaenv.com
fax: 510.899.7063

__PM – K. Pilgrim
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fax: 510.899.7053

__PM – B. Weisbrod
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fax: 510.899.7062

__PM – T. Kattchee
tedd@rgaenv.com
fax: 510.899.7070

__PM – B. Gils
bob@rgaenv.com
fax: 510.899.7050

Environmental SAMPLE DATA SHEET

Project Name/Address: _____ *PO #:* _____

RGA Project #: _____ Sampled By: _____ Sampling Date: _____

Sample(s) Sent To ☐ EM Lab ☐ Other: _____ ☐ _____ Turnaround Time: ___Rush ___24-Hr ___Standard

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)* Shipping Requirements: ___ Priority __Standard Overnight __2-Day

ADDITIONAL REPORT RECIPIENT(S): _____

Sample I.D.	Type	Sample Description					Sample Location	Time (min)	Flow Rate (LPM)	Volume (L) or Area (cm^2)	Culture	Direct Exam		Analysis
		Air	Bulk	Swab	Tape Lift									
PCB-37	PCB		X				8th Fl. W side (1)							PCB
PCB-38	Ach.		↓				8th Fl. W side (3)							↓
PCB-39	CAM-17						5th Fl. W side (10)							
PCB-40	CAM-17		↓				5th Fl. W side (11)							

Relinquished By: Mike B **Signature:** _____ **Date/Time:** 7/27/09

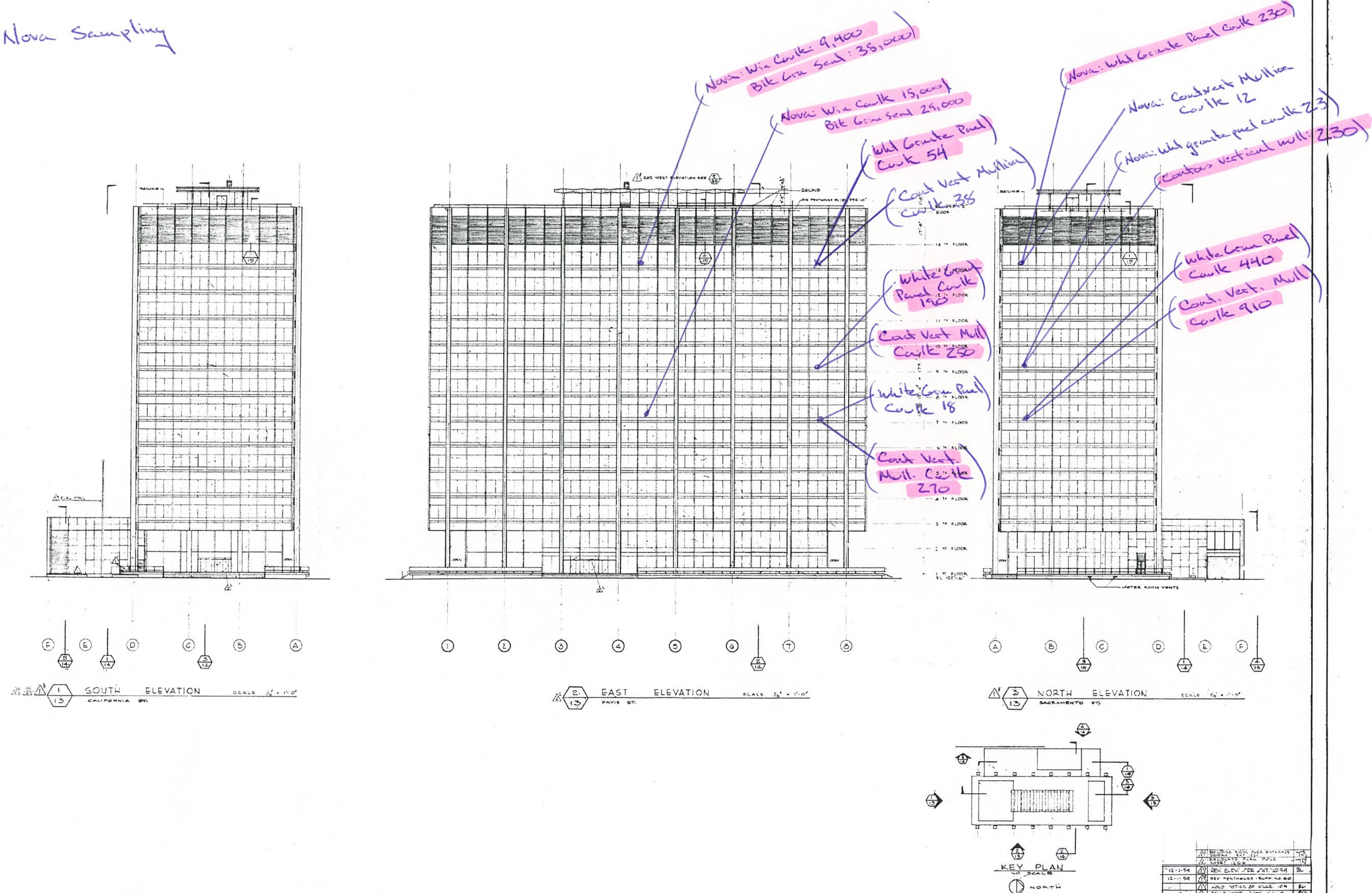
Received By: _____ **Signature:** _____ **Date/Time:** _____

Relinquished By: _____ **Signature:** _____ **Date/Time:** _____

Received By: _____ **Signature:** _____ **Date/Time:** _____

PCBs in ppm

Nova Sampling



12-1-54	3	REV. ELEV. SEE SHT. 10 54	BL
12-1-54	2	REV. PENTHOUSE - SUPP. NO. 60	
	1	HOLD NOTICE OF CLAR. 109	BL
		REV. PLANTER SUPP. NO. 7	BLK
DATE	NO.	REVISION	BY

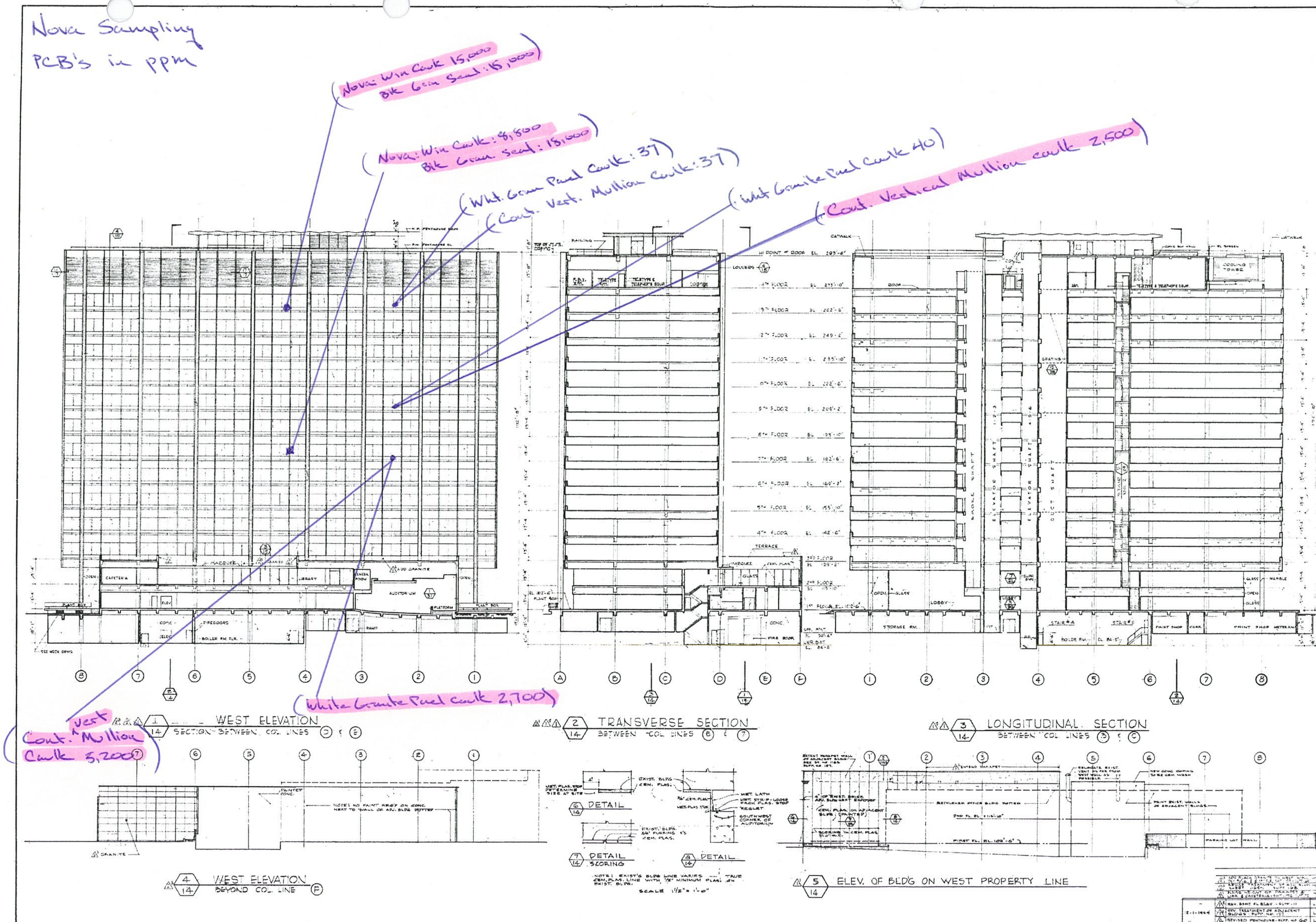
HAYES & LITTLE AND JOHN A. BLUME & ASSOCIATES
STRUCTURAL ENGINEERS
DUDLEY DEANE & ASSOCIATES
MECHANICAL & ELECTRICAL ENGINEERS
SAN FRANCISCO CALIFORNIA

BETHLEHEM PACIFIC COAST STEEL CORPORATION
OFFICE BUILDING
SAN FRANCISCO CALIFORNIA

WELTON BECKET AND ASSOCIATES
ARCHITECTS AND ENGINEERS
153 MAIDEN LANE
SAN FRANCISCO CALIFORNIA

EXTERIOR ELEVATIONS

DRAWN: F | TRACED: | CHECKED: E.B. | PRINTED: 12-4-54
DATE: JUNE 16 1958
JOB NO. 4144
SHEET NO. 13-2


Nova Sampling
PCB's in ppm
(Nova: Win Caulk 15,000
Blk Gran Seal: 15,000)
(Nova: Win Caulk: 8,800
Blk Gran. Seal: 18,000)
(Wht. Gran Panel Caulk: 37)
(Cont. Vert. Mullion Caulk: 37)
(Wht Granite Panel Caulk 40)
(Cont. Vertical Mullion caulk 2,500)
(White Granite Panel caulk 2,700)
(Cont. Vert Mullion Caulk 5,200)
1/14 WEST ELEVATION
SECTION BETWEEN COL. LINES D & E
2/14 TRANSVERSE SECTION
BETWEEN COL. LINES 8 & 7
3/14 LONGITUDINAL SECTION
BETWEEN COL. LINES 3 & C
4/14 WEST ELEVATION
BEYOND COL. LINE F
5/14 ELEV. OF BLD'G ON WEST PROPERTY LINE
6/14 DETAIL
7/14 DETAIL SCORING
8/14 DETAIL
SCALE 1 1/2" = 1'-0"
SCALE: 1/16" = 1'-0"
CAFETERIA
LIBRARY
AUDITORIUM
BOILER RM. FLR.
14TH FLOOR EL. 275'-10"
13TH FLOOR EL. 262'-6"
12TH FLOOR EL. 249'-2"
11TH FLOOR EL. 235'-10"
10TH FLOOR EL. 222'-6"
9TH FLOOR EL. 209'-2"
8TH FLOOR EL. 195'-10"
7TH FLOOR EL. 182'-6"
6TH FLOOR EL. 169'-2"
5TH FLOOR EL. 155'-10"
4TH FLOOR EL. 142'-6"
HI POINT OF ROOF EL. 293'-6"
TERRACE
LOBBY
STORAGE RM.
COOLING TOWER
SMOKE SHAFT
ELEVATOR SHAFT 1-2-3
ELEVATOR SHAFT 4-5-6
DUCT SHAFT
STAIR #4
STAIR #5
PAINT SHOP
PRINT SHOP
PARKING LOT WALL
REV. BSMT FL ELEV.
REV. TREATMENT OF ADJACENT BLDGS.
REVISED PENTHOUSE
DATE
NO.
REVISION
BY

HAYES & LITTLE AND JOHN A. BLUME & ASSOCIATES STRUCTURAL ENGINEERS DUDLEY DEANE & ASSOCIATES MECHANICAL & ELECTRICAL ENGINEERS SAN FRANCISCO CALIFORNIA	**BETHLEHEM PACIFIC COAST STEEL CORPORATION** OFFICE BUILDING SAN FRANCISCO CALIFORNIA	**WELTON BECKET AND ASSOCIATES** ARCHITECTS AND ENGINEERS 153 MAIDEN LANE SAN FRANCISCO CALIFORNIA	BUILDING SECTIONS & WEST ELEVATION

DRAWN R.W.H.	DATE JUNE 16 1958
TRACED	JOB NO. 4144
CHECKED E.B.	SHEET NO. 14-2
PRINTED 12-4-1959	

ENVIRONOVA
Environmental Health & Safety Management

June 2, 2009

9081

Mr. Nathan Kelly
Broadway Real Estate Services
100 California Street
San Francisco, CA

Limited Lead, Asbestos, and PCB Survey
Low Rise Roof, High Rise Roof
San Francisco, California

Dear Mr. Kelly:

Pursuant to your request and authorization, EnviroNova LLC (EnviroNova), is pleased to present this letter report to Broadway Real Estate Services for conducting a limited lead/asbestos survey located at 100 California St., San Francisco, California (Site). On May 20, 2009 Mr. Michael Michie, California Certified Site Surveillance Technician (CSST), collected suspect asbestos and lead material samples from the referenced location. Materials such as sealants or caulking have a history of containing lead and Polychlorinated Biphenyls (PCBs), samples of these materials were also collected from the referenced location. The asbestos and lead samples were submitted under chain of custody procedures to Micro Analytical Laboratories of Emeryville, California. The asbestos samples were analyzed via polarized light microscopy (PLM) in accordance with the method specified in appendix A subpart F 40 CFR part 763, section 1. The lead samples were analyzed via flame atomic absorption (FLAA) in accordance with EPA SW-846 method. The PCB samples were submitted under chain of custody procedures to McCampbell Analytical Laboratories of Pittsburg, California. The PCB samples were analyzed via EPA SW8082 method.

ASBESTOS

Three (3) homogeneous asbestos materials were sampled at the site, yielding three (3) bulk asbestos samples. The homogeneous materials sampled, tested negative for asbestos. Table I below summarizes the material, and location of the samples collected. The report of laboratory analysis and chain of custody are attached.

Table I - Non Asbestos Containing Materials Sampled

Material Description	Material Location
White Sealant	Low Rise Roof
Dark window sealant	Low Rise Roof
White paint	Parapet Wall high rise roof

LEAD

One (1) paint sample and two (2) sealant samples were collected for lead content. The paint and sealants sampled, tested positive for lead content. Table III below summarizes the material, location and lead content of the samples collected. The report of laboratory analysis and chain of custody are attached.

Table II – Materials Sampled for Lead Content

Material Description	Location	Lead Content (parts per million)
White Sealant	Low Rise Roof	29 PPM
Dark Window Sealant	Low Rise Roof	1,976 PPM X
White Paint	Parapet Wall High Rise Roof	304 PPM Y

POLYCHLORINATED BIPHENYLS (PCBs)

Two (2) sealant samples (caulking) were collected for PCB content. The sealants sampled, tested positive for PCB content. Table III below summarizes the material, location and PCB content of the samples collected. The report of laboratory analysis and chain of custody are attached.

Table III – Materials Sampled for PCBs

Material Description	Location	PCB Content (parts per million)
White Sealant (Column)	Low Rise Roof	25 PPM
Dark Sealant (Window)	Low Rise Roof	12,000 PPM

Environmental Protection Agency (EPA) states that caulking that contains PCBs at greater than 50 ppm is not authorized for continued use and must be removed. Although you are not required to remove caulking containing PCBs at levels below 50 ppm, you may wish to because the caulk may present health risks depending on the location, condition, etc. EPA recommends that owners and managers of buildings where PCBs are found in caulking take steps to minimize current potential exposure to building occupants until the caulk and contaminated surrounding materials can safely be removed.

This survey was conducted as a pre-renovation survey and an asbestos and lead abatement design document. Materials that were not included within the agreed upon scope of work, or could not be sampled discretely, were assumed to contain asbestos or lead. Until rebutted by appropriate sampling and analysis, these materials should be assumed to contain asbestos or lead. This survey was planned and implemented on the basis of a mutually agreed upon scope of work, and EnviroNova's previous experience in performing building surveys for asbestos containing materials (ACM) and lead. EnviroNova uses only qualified professionals and laboratories to perform building surveys and sample analyses. However, without complete destructive sampling of all building materials, EnviroNova cannot warrant that the site does not contain in locations other than those noted in this report. EnviroNova sampled only visible and accessible materials suspected of containing asbestos and or lead.

PLM is generally not capable of detecting extremely fine fibers (<0.3µm in diameter). However, further analysis by transmission electron microscopy is able to detect smaller fibers. However, this is a concern only with certain materials such as floor tiles.

This document was prepared by EnviroNova at the direction of Broadway Real Estate Services, for the sole use of the Broadway Real Estate Services, their sub-contractors the only intended beneficiaries of this work. No other party should rely on the information contained herein without the prior written consent of EnviroNova. This report and the interpretations, conclusions, and recommendations contained within are based in part on information presented in other documents or by other parties that are cited in the text. Therefore, this report is subject to the limitations and qualifications presented in the referenced information

EnviroNova recommends that all renovations that impact the lead and/or PCB containing materials noted in the tables above be performed by a registered abatement contractor. All lead and PCB work and disposal shall be in accordance with the local, State, and Federal regulations.

EnviroNova appreciates the opportunity to provide service on this project and we look forward to future assignments. Do not hesitate to contact me at (415) 408-8691 should you have any questions.

Respectfully submitted,

ENVIRONOVA

Michael Michie, CSST (#07-4215)
Staff Environmental Specialist

Patrick Garrett, CAC (#92-0337) CA-DPH (#110)
Vice President

Attachments: Laboratory Reports
Chain of Custodies

MICRO ANALYTICAL LABORATORIES, INC.

BULK ASBESTOS ANALYSIS - PLM (EPA/600/R-93/116, 1993)

1032
Pat Garrett
EnviroNova
110 Landing Court, Suite B
Novato, CA 94945

PROJECT:
100 CALIFORNIA STREET
PROJECT NO. 9081

Micro Log In **124939**
Total Samples 3
Date Sampled 05/20/2009
Date Received 05/20/2009
Date Analyzed 05/20/2009

ASBESTOS INFORMATION

SAMPLE IDENTIFICATION	QUANTITY (AREA %) / TYPES / LAYERS / DISTINCT SAMPLES	DOMINANT OTHER MATERIALS
Client: 01-001 Micro: 124939-01 White Analyst: DA HM # 01 - WHITE SEALANT LOW RISE ROOF	NONE DETECTED	Matrix Type: SYNTHETIC MATERIAL
Client: 02-001 Micro: 124939-02 Brown Analyst: DA HM #02 - DARK WINDOW SEALANT EXTERIOR WINDOW LOW RISE ROOF	NONE DETECTED	Matrix Type: SYNTHETIC MATERIAL
Client: 03-001 Micro: 124939-03 White Analyst: DA HM # 03 - WHITE PAINT HIGH RISE PARAPET WALL - ROOF	NONE DETECTED	Matrix Type: SYNTHETIC MATERIAL MISC. PARTICLES

Technical Supervisor: FOR: Gamini Ranatunga, Ph.D. 5/20/2009 Date Reported

Asbestos is quantified by calibrated visual estimation. Detection limit is material dependent. Detection of asbestos traces (much less than 1%) may not be reliable or reproducible by PLM. Weight % cannot be determined by PLM. Asbestos with diameter below ~1 μm may not be detected by PLM. Absence of asbestos in dust, debris, and some compact materials, including floor tiles, cannot be conclusively established by PLM, and should be confirmed by Transmission Electron Microscopy (TEM). The lower quantitation limit (reporting limit) of PLM estimation is 1%. The Cal-OSHA definition of asbestos-containing construction material is 0.1% asbestos; however, reliable determination of asbestos percent at this level cannot be done by PLM estimation; PLM Point Counting or TEM is recommended. Only dominant non-asbestos materials are indicated. Interferences may prevent detection of small asbestos fibers, and hinder determination of some optical properties. Sample heterogeneity is indicated by listing more than one distinct layer or material on the report. Layers are analyzed separately when feasible; if asbestos is detected, percentages are reported for individual layers. Interlayer contamination is possible among any layers in a sample. Composite asbestos percentages are applicable only to wallboard / joint compound systems; compositing is based on customers' descriptions of material as "joint compound". Customers are solely responsible for identification and description of bulk materials listed on field forms. Laboratory descriptions may differ from those given by customers. Quality Control (QC) Codes: A1/A2 = results within acceptance limits; F = false positive or negative corrected, reanalysis within acceptance limits; M = Method error resolved (for trace amounts); R = Other, resolved after review. Accreditation: NIST / NVLAP (Lab Code 101872-0). CA ELAP Certification #1037. EPA 1993 method is based on EPA Interim Method (1982), with improved analytical techniques. Unless otherwise stated herein, all samples were received in acceptable condition for analysis. This report must not be used to claim product endorsement by NIST or any U.S. Government agency. This report shall not be reproduced without the approval of Micro Analytical Laboratories, Inc., shall not be reproduced except in full, and pertains only to the samples analyzed. ND = NO ASBESTOS DETECTED.

ENVIRONOVA
Environmental Health & Safety Management
110 Landing Court, Suite B
Novato CA 94945
Tel 415.883.7575
Fax 415.883.7475

124939

ACM BULK SAMPLE DATA SHEET

* PLM Analysis

✓ Stop Analysis at First Positive PAGE 1 OF 1

__ Analyze All Samples

__ Point Count Analysis (400-point)

Project Name/Address: 100 California St.

Project #: 9081 Sampled By: M Michie Sampling Date: 5-20-09

Sample(s) Sent To: ☐ ASBESTOS TEM ☒ MAL Other: _____ TAT: __Rush ✓ 24Hrs __3-5 Days

**EMAIL REPORT TO: Basil Falcone ☐ bfalcone@environova.com Pat Garrett ☐ pgarrett@environova.com

HM# 01	Material Description: White Sealant	
Sample ID	Sample Location & Material Location	Quantity:
01-001	White Sealant - Low rise roof	
HM# 02	Material Description: dark window sealant	
Sample ID	Sample Location & Material Location	Quantity:
02-001	Exterior windows - Low rise roof	
HM# 03	Material Description: White Paint	
Sample ID	Sample Location & Material Location	Quantity:
03-001	High rise parapet wall - roof	
HM#	Material Description:	
Sample ID	Sample Location & Material Location	Quantity:
HM#	Material Description:	
Sample ID	Sample Location & Material Location	Quantity:

Relinquished By: M Michie Signature: [signature] Date/Time: 5-20-09

Received By: TV Signature: [signature] Date/Time: 5-20-09 12:24

MICRO ANALYTICAL LABORATORIES, INC.

LEAD IN PAINT - FLAME AAS (EPA 7420)

1032
Pat Garrett
EnviroNova
110 Landing Court, Suite B
Novato, CA 94945

PROJECT:

100 CALIFORNIA STREET
PROJECT NO. 9081

Micro Log In 124940
Total Samples 1
Date Sampled 05/20/2009
Date Received 05/20/2009
Date Analyzed 05/21/2009

Sample ID	Lead Concentration: Weight Percent	Lead Concentration: mg/kg (ppm)	Reporting Limits
Client: 9081-L-01 Lab: 124940-01 WHITE / CONCRETE PARAPET WALL	0.03%	304	0.01 % 79 mg/kg

Technical Supervisor: _____ 5/21/2009 Analyst: AW
Tess Tagorda, Chemistry Supervisor — Date Reported

AIHA ELLAP Accredited Laboratory, ID #101768. Samples are analyzed by Flame Atomic Absorption Spectrometry (AAS). U.S. EPA SW-846 Method 7420 is used for the instrumental analysis. Nitric acid and hydrogen peroxide digestion procedures are based on ASTM E-1645. Unless otherwise indicated on this report, all required Quality Control samples have been determined to be in control prior to releasing these analytical results. Unless otherwise stated in this report, all samples were received in acceptable condition for analysis. This report must not be reproduced without the approval of Micro Analytical Laboratories, Inc., and pertains only to the samples analyzed. Unit explanations: mg = milligrams; kg = kilograms; ppm = parts per million. N/A = Not Applicable.

ENVIRONOVA
Environmental Health & Safety Management

110 Landing Court, Suite B
Novato CA 94945
Tel 415.883.7575
Fax 415.883.7475

LEAD PAINT SAMPLE DATA SHEET

* Lead Analysis
- Flame AA (EPA 7420)

124940 AA PAINT

PAGE 1 OF 1

Project Name/Address: 100 California St.

Project #: 9081 Sampled By: M. Michie Sampling Date: 5-20-09

Sample(s) Sent To: ☑ MAL ☐ EMSL ☐ Other: _____ TAT: ___ Rush ✓ 24Hrs ___ 3-5 Days

E-MAIL REPORT TO: : Basil Falcone bfalcone@environova.com Pat Garrett pgarrett@environova.com

Sample ID	Paint Description and Sample Location	Peeling Quantity
9081-L-01	Paint Color: White Substrate: Concrete Composite Sample: Y (N) Sample Location: Parapet wall	30%
9081-L-02	TTLC ~~Paint Color:~~ White Sealant Substrate: _____ Composite Sample: Y / N Sample Location: Exterior Column - Low rise roof	
9081-L-03	TTLC ~~Paint Color:~~ dark window sealant Substrate: _____ Composite Sample: Y / N Sample Location: Exterior window - Low rise roof	
	Paint Color: _____ Substrate: _____ Composite Sample: Y / N Sample Location:	
	Paint Color: _____ Substrate: _____ Composite Sample: Y / N Sample Location:	
	Paint Color: _____ Substrate: _____ Composite Sample: Y / N Sample Location:	
	Paint Color: _____ Substrate: _____ Composite Sample: Y / N Sample Location:	

Relinquished By: M Michie **Signature:** M Michie **Date/Time:** 5-20-09

Received By: T.V. **Signature:** TV **Date/Time:** 5.20.09 12:2

Relinquished By: _____ **Signature:** _____ **Date/Time:** _____

Received By: _____ **Signature:** _____ **Date/Time:** _____

MICRO ANALYTICAL LABORATORIES, INC.

EPA SW-846 - LEAD TTLC

1032
Pat Garrett
EnviroNova
110 Landing Court, Suite B
Novato, CA 94945

PROJECT:

100 CALIFORNIA STREET
PROJECT NO. 9081

Micro Log In 124941
Total Samples 2
Date Sampled 05/20/2009
Date Received 05/20/2009
Date Analyzed 05/20/2009

Sample ID	Lead Concentration (mg/Kg or ppm)	Reporting Limit (mg/Kg or ppm)	Comments
Client 9081-L-02 Micro 124941-01 WHITE SEALANT EXTERIOR COLUMN LOW RISE ROOF	29	9.1	
Client 9081-L-03 Micro 124941-02 DARK WINDOW SEALANT EXTERIOR WINDOW LOW RISE ROOF	1976.1	121.9	

Technical Supervisor: for Tess Tagorda, Chemistry Supervisor 5/20/2009 Date Reported

Analyst: AW

AIHA ELLAP Accredited Laboratory, ID #101768. Samples are analyzed by FLAA or ICP in accordance with EPA Methods 3050B for Acid Digestion (SW 846, 1992 edition) and 7420 or 6010 for Analysis (SW-846, 1986 edition). Unless otherwise indicated on this report, all required Quality Control samples have been determined to be in control prior to releasing these analytical results. Unless otherwise stated in this report, all samples were received in acceptable condition for analysis. This report must not be reproduced without the approval of Micro Analytical Laboratories, Inc., and pertains only to the samples analyzed. Unit explanations: mg = milligrams; kg = kilograms; ppm = parts per million.

ENVIRONOVA
Environmental Health & Safety Management

110 Landing Court, Suite B
Novato CA 94945
Tel 415.883.7575
Fax 415.883.7475

LEAD PAINT SAMPLE DATA SHEET

* Lead Analysis
- Flame AA (EPA 7420)

12494 TTLC

PAGE 1 OF 1

Project Name/Address: 100 California St.

Project #: 9081 Sampled By: M Michie Sampling Date: 5-20-09

Sample(s) Sent To: ☑ MAL ☐ EMSL ☐ Other: _____ TAT: ___Rush ✓24Hrs ___3-5 Days

E-MAIL REPORT TO: : Basil Falcone bfalcone@environova.com Pat Garrett pgarrett@environova.com

Sample ID	Paint Description and Sample Location	Peeling Quantity
9081-L-01	Paint Color: White Substrate: Concrete Composite Sample: Y (N) Sample Location: Parapet wall	30%
9081-L-02 (01)	TTLC ~~Paint Color:~~ White Sealant Substrate: _____ Composite Sample: Y / N Sample Location: Exterior Column - Low rise roof	
9081-L-03 (02)	TTLC ~~Paint Color:~~ dark window sealant Substrate: _____ Composite Sample: Y / N Sample Location: Exterior window - Low rise roof	
	Paint Color: _____ Substrate: _____ Composite Sample: Y / N Sample Location:	
	Paint Color: _____ Substrate: _____ Composite Sample: Y / N Sample Location:	
	Paint Color: _____ Substrate: _____ Composite Sample: Y / N Sample Location:	
	Paint Color: _____ Substrate: _____ Composite Sample: Y / N Sample Location:	

Relinquished By: M Michie Signature: M Michie Date/Time: 5-20-09

Received By: T.V. Signature: TV Date/Time: 5.20.09 2:

Relinquished By: _____ Signature: _____ Date/Time: _____

Received By: _____ Signature: _____ Date/Time: _____

070307

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☑ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAY

☐ GeoTracker EDF ☐ PDF ☐ Excel ☐ Write On (DW)

☐ Check if sample is effluent and "J" flag is required

Report To: Pat Garrett Bill To:

Company: EnviroNova, LLC

110 Landing ct. Ste B

Novato, CA E-Mail: Pgarrett@environova.com

Tele: (415) 883-7575 Fax: ( )

Project #: 9081 Project Name:

Project Location: 100 California St.

Sampler Signature: Pat Garrett

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	Analysis Request: BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOC's)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY / Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other			Comments
9081-Pcb-1	Column	5/20																				X													
9081-Pcb-2	Window	5/20																				X													

Relinquished By:	Date:	Time:	Received By:
Pat Garrett	5/26/09	1:03pm	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° N/A

GOOD CONDITION

HEAD SPACE ABSENT

DECHLORINATED IN LAB

APPROPRIATE CONTAINERS

PRESERVED IN LAB

VOAS O&G METALS OTHER

PRESERVATION pH<2

COMMENTS:

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova	Client Project ID: #9081; 100 California Street	Date Sampled: 05/20/09
		Date Received: 05/20/09
110 Landing Court, Suite B	Client Contact: Pat Garrett	Date Extracted: 05/20/09
Novato, CA 94945-4122	Client P.O.:	Date Analyzed 05/21/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0905399

					Reporting Limit for DF =1	
Lab ID	0905399-001A	0905399-002A				
Client ID	9081-Pcb-1	9081-Pcb-2				
Matrix	S	S				
DF	10	8000			S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<5.0	ND<4000			0.025	NA
Aroclor1221	ND<5.0	ND<4000			0.025	NA
Aroclor1232	ND<5.0	ND<4000			0.025	NA
Aroclor1242	ND<5.0	ND<4000			0.025	NA
Aroclor1248	ND<5.0	ND<4000			0.025	NA
Aroclor1254	25	12,000			0.025	NA
Aroclor1260	ND<5.0	ND<4000			0.025	NA
PCBs, total	25	12,000			0.025	NA
Surrogate Recoveries (%)						
%SS:	113	---#				
Comments	h4	h4				

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8082

W.O. Sample Matrix: Solid QC Matrix: Soil BatchID: 43329 WorkOrder: 0905399

EPA Method SW8082 **Extraction SW3550C** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Aroclor1260	N/A	0.075	N/A	N/A	N/A	123	124	0.332	N/A	N/A	70 - 130	20
%SS:	N/A	0.050	N/A	N/A	N/A	86	87	0.403	N/A	N/A	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 43329 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0905399-001A	05/20/09	05/20/09	05/21/09 10:10 AM	0905399-002A	05/20/09	05/20/09	05/21/09 2:20 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

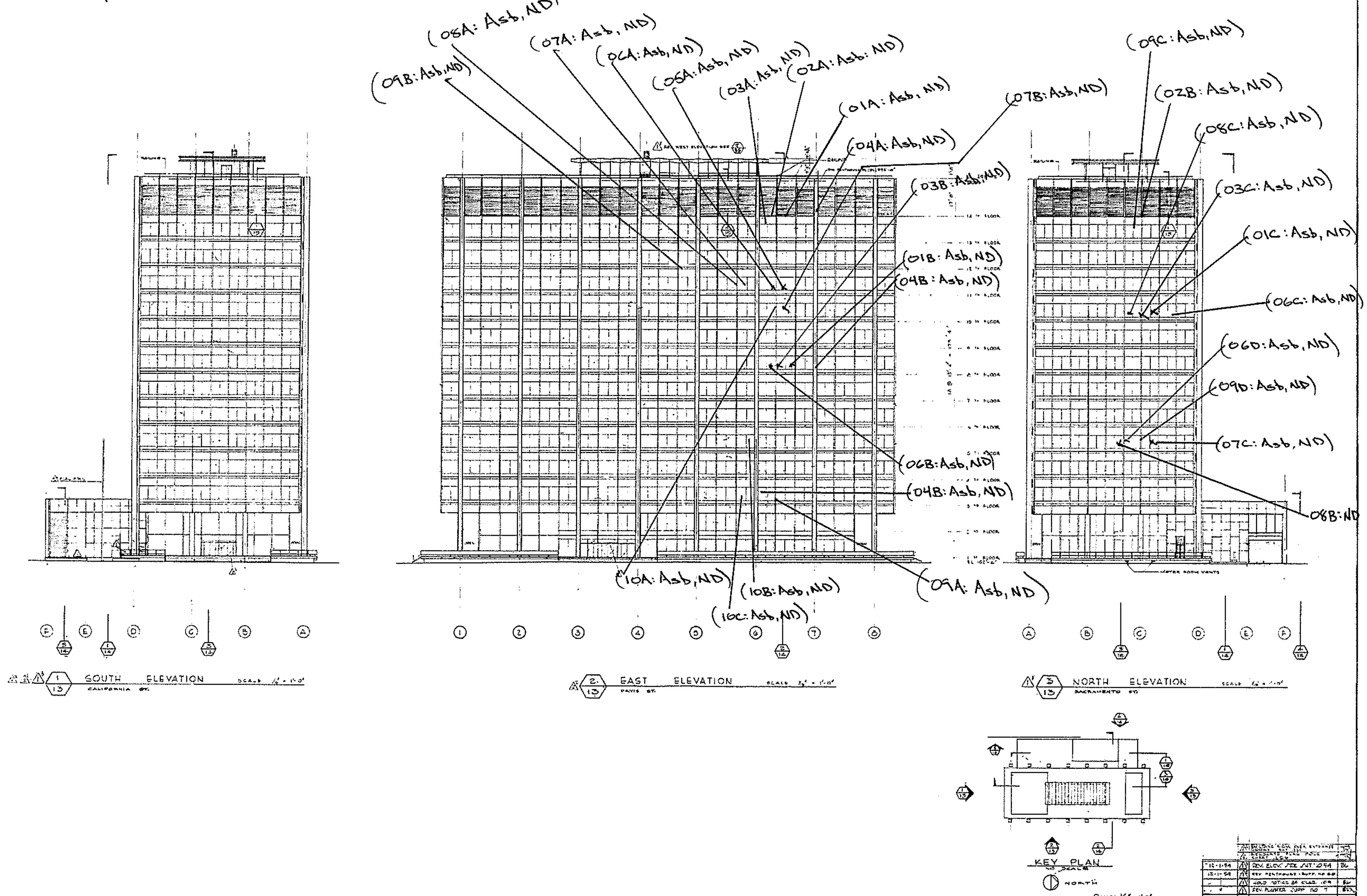
MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

~~RGA samples Asbestos~~

RGA Samples: Asbestos



12-1-54	3	REV. ELEV. PER SNT. NO 54	BG
12-1-54	2	REV. PENTHOUSE - SUPP. NO 60	
	1	HOLD NOTICE OF CLAR. 109	
		REV. PLANTER SUPP. NO 7	
DATE	NO.	REVISION	BY

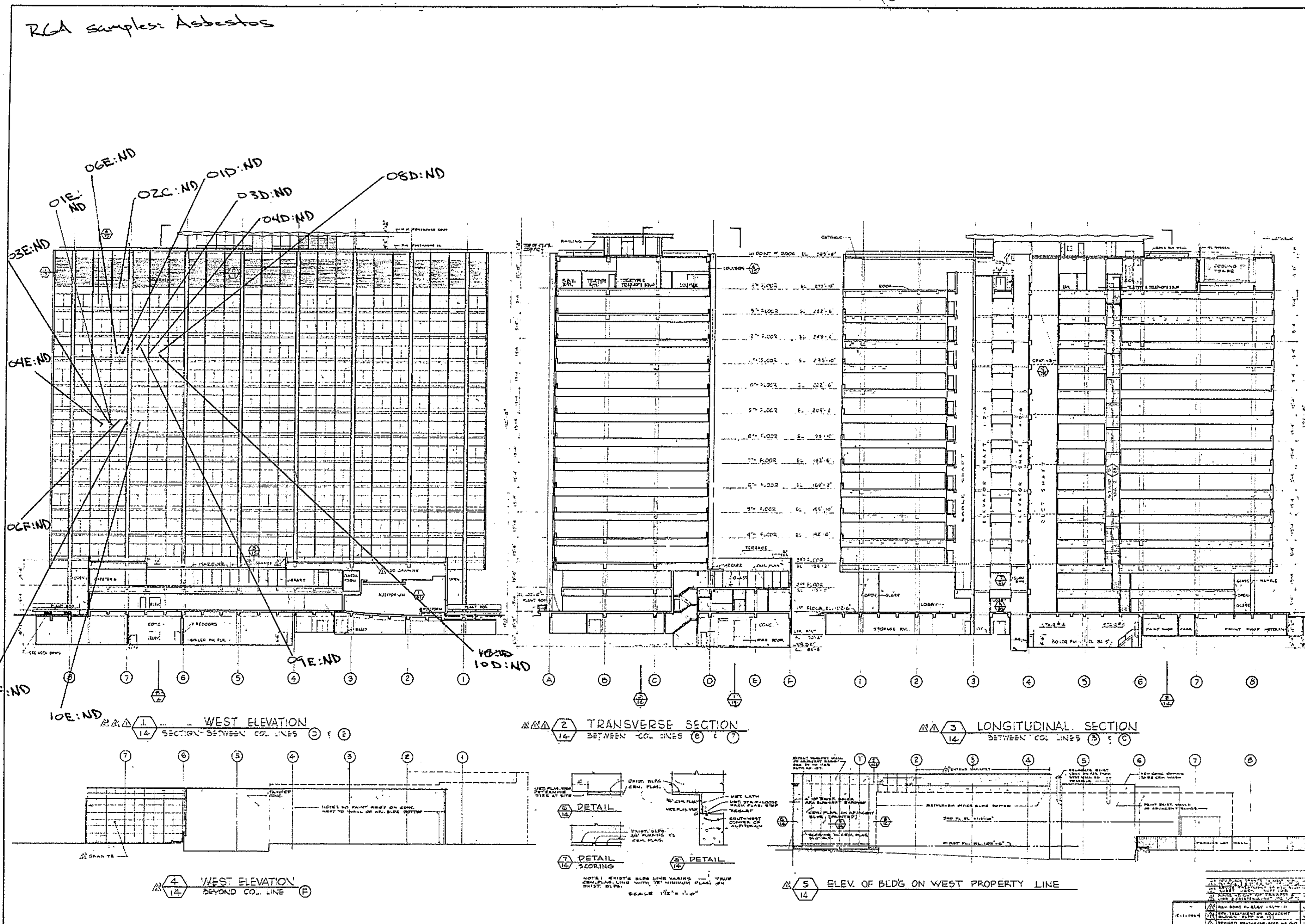
HAYES & LITTLE AND JOHN A. BLUME & ASSOCIATES
STRUCTURAL ENGINEERS
DUDLEY DEANE & ASSOCIATES
MECHANICAL & ELECTRICAL ENGINEERS
SAN FRANCISCO CALIFORNIA

BETHLEHEM PACIFIC COAST STEEL CORPORATION
OFFICE BUILDING
SAN FRANCISCO CALIFORNIA

WELTON BECKET AND ASSOCIATES
ARCHITECTS AND ENGINEERS
153 MAIDEN LANE
SAN FRANCISCO CALIFORNIA

EXTERIOR ELEVATIONS

DRAWN: FP
DATE: JUNE 16 1958
TRACED:
JOB NO. 4144
CHECKED: E-S-
PRINTED: 12-4-74
SHEET NO. 13-2


RGA samples: Asbestos
06E:ND
01D:ND
02C:ND
03D:ND
04D:ND
08D:ND
01E: ND
03E:ND
04E:ND
06F:ND
09F:ND
10E:ND
09E:ND
10D:ND
1 / 14 WEST ELEVATION
SECTION BETWEEN COL. LINES D & E
2 / 14 TRANSVERSE SECTION
BETWEEN COL. LINES 6 & 7
3 / 14 LONGITUDINAL SECTION
BETWEEN COL. LINES 3 & C
4 / 14 WEST ELEVATION
BEYOND COL. LINE F
5 / 14 ELEV. OF BLD'G ON WEST PROPERTY LINE
6 / 14 DETAIL
7 / 14 DETAIL
SCORING
8 / 14 DETAIL
SCALE 1 1/2" = 1'-0"
SCALE: 1/16" = 1'-0"
AUDITORIUM
LIBRARY
LOBBY
STORAGE RM.
BOILER RM.
PRINT SHOP
COOLING TOWER
ELEVATOR SHAFT
DUCT SHAFT
TERRACE
LOUVERS
CATWALK

HAYES & LITTLE AND JOHN A. BLUME & ASSOCIATES
STRUCTURAL ENGINEERS
DUDLEY DEANE & ASSOCIATES
MECHANICAL & ELECTRICAL ENGINEERS
SAN FRANCISCO CALIFORNIA

BETHLEHEM PACIFIC COAST STEEL CORPORATION
OFFICE BUILDING
SAN FRANCISCO CALIFORNIA

WELTON BECKET AND ASSOCIATES
ARCHITECTS AND ENGINEERS
151 MAIDEN LANE
SAN FRANCISCO CALIFORNIA

BUILDING SECTIONS
& WEST ELEVATION

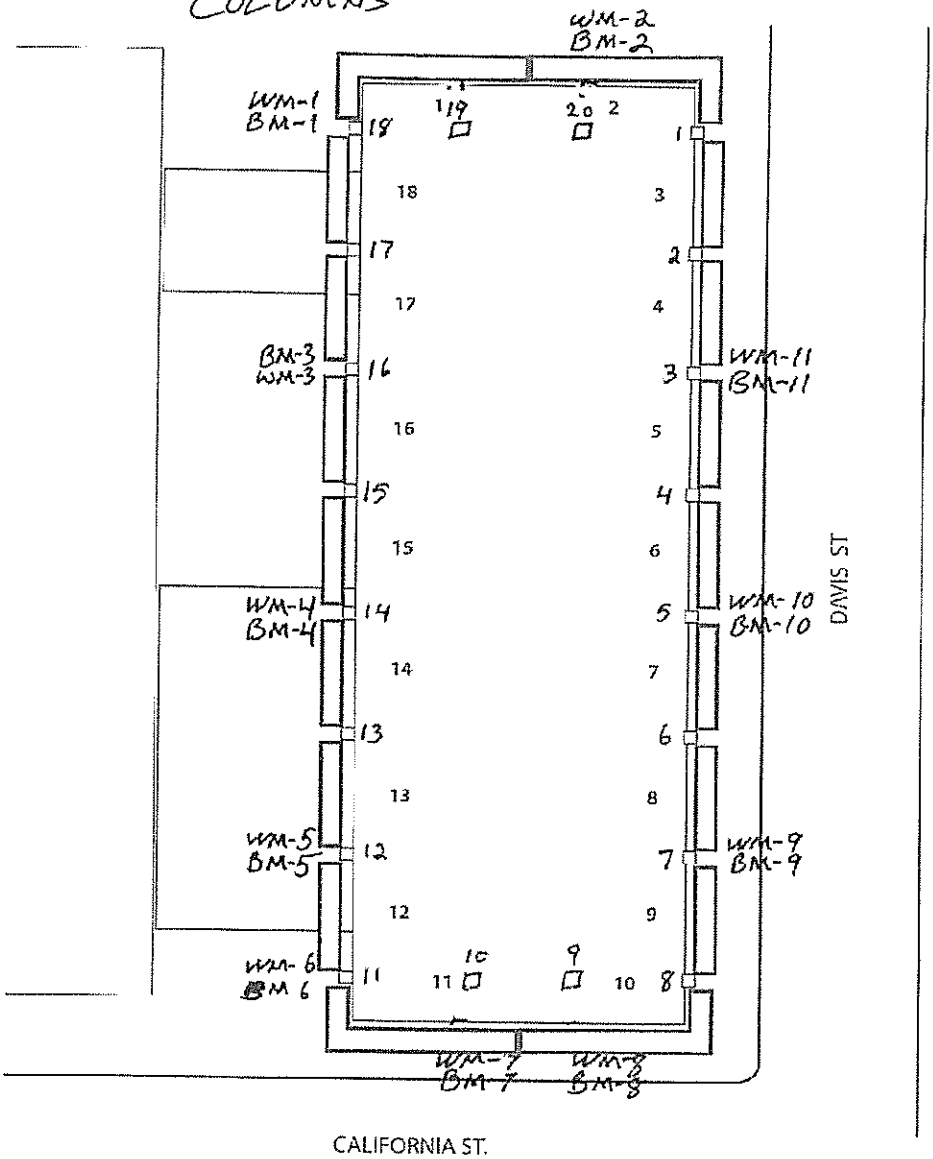
DRAWN	DATE JUNE 16 1958
TRACED	JOB NO. 4144
CHECKED	SHEET NO. 14-2
PRINTED 12-4-1959	

URBAN WATERPROOFING

100 California Swing Stage Drop Diagram

COLLECTED 6/8/09

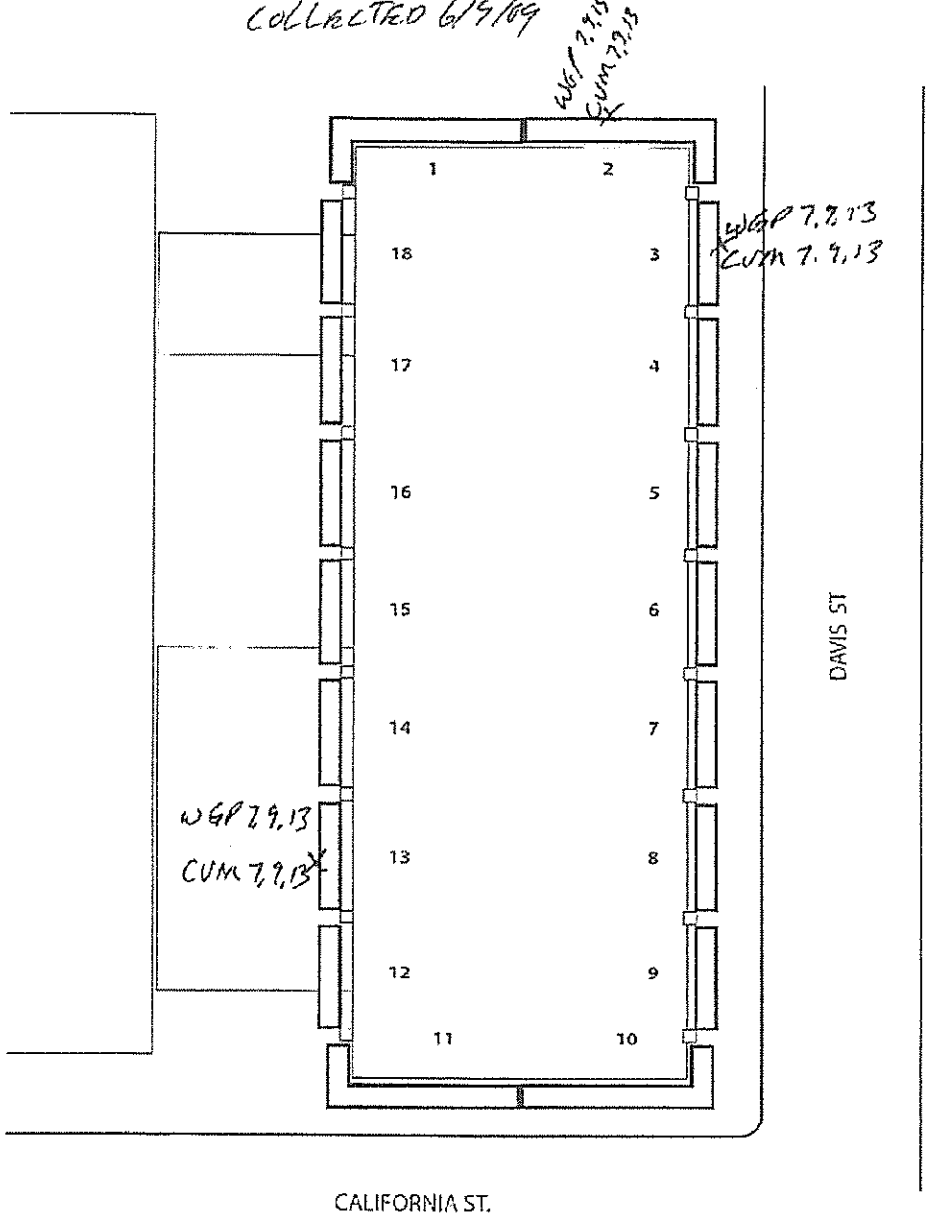
COLUMNS



URBAN
WATERPROOFING

100 California Swing Stage Drop Diagram

COLLECTED 6/9/69



ENVIRONOVA
Environmental Health & Safety Management

June 16, 2009

9081
Revised

Mr. Nathan Kelly
Broadway Real Estate Services
100 California Street
San Francisco, CA

Limited Lead, Asbestos, and PCB Survey
Low and High Rise Roof, Columns, Drops 2, 3, & 13
San Francisco, California

Dear Mr. Kelly:

Pursuant to your request and authorization, EnviroNova LLC (EnviroNova), is pleased to present this letter report to Broadway Real Estate Services for conducting a limited lead, asbestos and PCB survey located at 100 California St., San Francisco, California (Site). On May 20, 2009 Mr. Michael Michie, California Certified Site Surveillance Technician (CSST), collected suspect asbestos and lead material samples from the referenced location. Materials such as sealants or caulking have a history of containing lead and Polychlorinated Biphenyls (PCBs), samples of these materials were also collected from the referenced location. The asbestos and lead samples were submitted under chain of custody procedures to Micro Analytical Laboratories of Emeryville, California. The asbestos samples were analyzed via polarized light microscopy (PLM) in accordance with the method specified in appendix A subpart F 40 CFR part 763, section 1. The lead samples were analyzed via flame atomic absorption (FLAA) in accordance with EPA SW-846 method. The PCB samples were submitted under chain of custody procedures to McCampbell Analytical Laboratories of Pittsburg, California. The PCB samples were analyzed via EPA SW8082 method.

On June 4, 2009, EnviroNova returned to collect caulk samples from the curtain panels and the window sealant on the east side. The previous samples collected on May 20, 2009 were from the west side, due to a misunderstanding Urban collected the samples from the west side. EnviroNova returned and collected the samples from the east side. The PCB samples were submitted under chain of custody procedures to McCampbell Analytical Laboratories of Pittsburg, California. The PCB samples were analyzed via EPA SW8082 method.

On June 8, 2009, Broadway Real Estate Services (BRES), EnviroNova, and Urban met in the offices of BRES to discus the results of the samples collected thus far. It was decided that there were enough samples of the window sealant but more were needed of columns (both white and black caulk), the granite panels, and the vertical mullion. EnviroNova collected caulk from eleven (11) columns on all sides of the building. The samples were submitted under chain of custody procedures to McCampbell Analytical Laboratories of Pittsburg, California. The samples were analyzed via EPA SW8082 method. See Table IV for details

On June 9, 2009, EnviroNova collected samples of the granite and the vertical mullion. The samples were collected from three sides of the building at three different floor levels. The samples were submitted under chain of custody procedures to McCampbell Analytical Laboratories of Pittsburg, California. The samples were analyzed via EPA SW8082 method. See Table V for details.

ASBESTOS

Three (3) homogeneous asbestos materials were sampled at the site, yielding three (3) bulk asbestos samples. The homogeneous materials sampled, tested negative for asbestos. Table I below summarizes the material, and location of the samples collected. The report of laboratory analysis and chain of custody are attached.

Table I - Non Asbestos Containing Materials Sampled

Material Description	Material Location
White Sealant	Low Rise Roof
Dark window sealant	Low Rise Roof
White paint	Parapet Wall high rise roof

LEAD

One (1) paint sample and two (2) sealant samples were collected for lead content. The paint and sealants sampled, tested positive for lead content. Table III below summarizes the material, location and lead content of the samples collected. The report of laboratory analysis and chain of custody are attached.

Table II – Materials Sampled for Lead Content

Material Description	Location	Lead Content (parts per

		million)
White Sealant	Low Rise Roof	29 PPM
Dark Window Sealant	Low Rise Roof	1,976 PPM
White Paint	Parapet Wall High Rise Roof	304 PPM

POLYCHLORINATED BIPHENYLS (PCBs)

Two (2) sealant samples (caulking) were collected for PCB content. The sealants sampled, tested positive for PCB content. Table III below summarizes the material, location and PCB content of the samples collected. The report of laboratory analysis and chain of custody are attached.

Table III – Materials Sampled On 5/20/09 for PCBs

Material Description	Location	PCB Content (parts per million)
White Sealant (Column)	Low Rise Roof	25 PPM
Dark Sealant (Window)	Low Rise Roof	12,000 PPM

Ten (10) sealant samples (caulk) were collected for PCB content. The sealants sampled, tested positive for PCB content. Table IV below summarizes the material, location and PCB content of the samples collected. The report of laboratory analysis and chain of custody are attached.

Table IV – Materials Sampled On 6/4/09 for PCBs

Material Description	Location	PCB Content (parts per million)
Curtain Panel	Low Rise Roof West Side	150 PPM
Granite Panel	Low Rise Roof West Side	14 PPM
Window Caulk	7th Floor West Side	8,800 PPM
Black Granite Sealant	7th Floor West Side	18,000 PPM
Window Caulk	13th Floor West Side	15,000 PPM
Black Granite Sealant	13th Floor West Side	15,000 PPM

Window Caulk	7th Floor East Side	15,000 PPM 7
Black Granite Sealant	7th Floor East Side	29,000 PPM 8
Window Caulk	13th Floor East Side	9,400 PPM 9
Black Granite Sealant	13th Floor East Side	38,000 PPM 10

Twenty-two (22) sealant samples (caulk) were collected for PCB content. Thirteen (13) sealants sampled, tested positive for PCB content. Table V below summarizes the material, location and PCB content of the samples collected. The report of laboratory analysis and chain of custody are attached.

Table V – Materials Sampled On 6/8/09 for PCBs

Material Description	Location	PCB Content (parts per million)
White Caulk*** Black Caulk	Column 18	8.4*** ND < 50 PPM 11
White Caulk*** Black Caulk	Column 20	ND < 50*** 6.1 PPM 12
White Caulk*** Black Caulk	Column 16	ND < 100*** 13 PPM 13
White Caulk*** Black Caulk	Column 14	ND < 50*** 9.5 PPM 14
White Caulk*** Black Caulk	Column 12	3.1***1.6 PPM 15
White Caulk*** Black Caulk	Column 11	21***ND < 10 PPM 16
White Caulk*** Black Caulk	Column 10	ND < 50***ND < 25 PPM 17
White Caulk*** Black Caulk	Column 9	ND < 50***ND < 25 PPM 18
White Caulk*** Black Caulk	Column 7	22*** ND < 10 PPM 19
White Caulk*** Black Caulk	Column 5	18***61 20
White Caulk*** Black Caulk	Column 3	12*** ND < 10 21

Eighteen (18) sealant samples (caulk) were collected for PCB content. The sealants sampled, tested positive for PCB content. Table VI below summarizes the material, location and PCB content of the samples collected. The report of laboratory analysis and chain of custody are attached.

Table VI – Materials Sampled On 6/9/09 for PCBs

Material Description	Location	PCB Content (parts per million)
White Granite Panel Caulk	Drop 2, 13th Floor	230 PPM
Continuous Vertical Mullion Caulk	Drop 2,13th Floor	12 PPM
White Granite Panel Caulk	Drop 2, 9th Floor	23 PPM
Continuous Vertical Mullion Caulk	Drop 2, 9th Floor	230 PPM
White Granite Panel Caulk	Drop 2, 7th Floor	440 PPM
Continuous Vertical Mullion Caulk	Drop 2, 7th Floor	910 PPM
White Granite Panel Caulk	Drop 13, 13th Floor	37 PPM
Continuous Vertical Mullion Caulk	Drop 13, 13th Floor	37 PPM
White Granite Panel Caulk	Drop 13, 9th Floor	40 PPM
Continuous Vertical Mullion Caulk	Drop 13, 9th Floor	2,500 PPM
White Granite Panel Caulk	Drop 13, 7th Floor	2,700 PPM
Continuous Vertical Mullion Caulk	Drop 13, 7th Floor	5,200 PPM
White Granite Panel Caulk	Drop 3, 13th Floor	54 PPM
Continuous Vertical Mullion Caulk	Drop 3, 13th Floor	38 PPM
White Granite Panel Caulk	Drop 3, 9th Floor	190 PPM
Continuous Vertical Mullion Caulk	Drop 3, 9th Floor	250 PPM
White Granite Panel Caulk	Drop 3, 7th Floor	18 PPM
Continuous Vertical Mullion Caulk	Drop 3, 7th Floor	270 PPM

Environmental Protection Agency (EPA) states that caulking that contains PCBs at greater than 50 ppm is not authorized for continued use and must be removed. Although you are not required to remove caulking containing PCBs at levels below 50 ppm, you may wish to because the caulk may present health risks depending on the location, condition, etc. EPA recommends that owners and managers of buildings where PCBs are found in caulking take steps to minimize current potential exposure to building occupants until the caulk and contaminated surrounding materials can safely be removed.

This survey was conducted as a pre-renovation survey and an asbestos, lead and PCB abatement design document. Materials that were not included within the agreed upon scope of work, or could not be sampled discretely, were assumed to contain asbestos or lead or PCB. Until rebutted by appropriate sampling and analysis, these materials should be assumed to contain asbestos or lead or PCB. This survey was planned and implemented on the basis of a mutually agreed upon scope of work, and EnviroNova's previous experience in performing building surveys for asbestos containing materials (ACM), lead and PCB. EnviroNova uses only qualified professionals and laboratories to perform building surveys and sample analyses. However, without complete destructive sampling of all building materials, EnviroNova cannot warrant that the site does not contain in locations other than those noted in this report. EnviroNova sampled only visible and accessible materials suspected of containing asbestos or lead or PCB.

PLM is generally not capable of detecting extremely fine fibers (<0.3µm in diameter). However, further analysis by transmission electron microscopy is able to detect smaller fibers. However, this is a concern only with certain materials such as floor tiles.

This document was prepared by EnviroNova at the direction of Broadway Real Estate Services, for the sole use of the Broadway Real Estate Services, their sub-contractors the only intended beneficiaries of this work. No other party should rely on the information contained herein without the prior written consent of EnviroNova. This report and the interpretations, conclusions, and recommendations contained within are based in part on information presented in other documents or by other parties that are cited in the text. Therefore, this report is subject to the limitations and qualifications presented in the referenced information

EnviroNova recommends that all renovations that impact the lead and/or PCB containing materials noted in the tables above be performed by a registered abatement contractor. All lead and PCB work and disposal shall be in accordance with the local, State, and Federal regulations.

EnviroNova appreciates the opportunity to provide service on this project and we look forward to future assignments. Do not hesitate to contact me at (415) 408-8691 should you have any questions.

Respectfully submitted,

ENVIRONOVA

Michael Michie, CSST (#07-4215)
Staff Environmental Specialist

Patrick Garrett, CAC (#92-0337) CA-DPH (#110)
Vice President

Attachments: Laboratory Reports
Chain of Custodies

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova	Client Project ID: #9081	Date Sampled: 06/04/09
110 Landing Court, Suite B		Date Received: 06/04/09
Novato, CA 94945-4122	Client Contact: Pat Garrett	Date Reported: 06/08/09
	Client P.O.:	Date Completed: 06/08/09

WorkOrder: 0906159

June 08, 2009

Dear Pat:

Enclosed within are:

1) The results of the 6 analyzed samples from your project: **#9081,**
2) A QC report for the above samples,
3) A copy of the chain of custody, and
4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

0906159

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

RUSH

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☒ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAY

☐ GeoTracker EDF ☐ PDF ☒ Excel ☐ Write On (DW)

☐ Check if sample is effluent and "J" flag is required

Report To: PAT GARRETT Bill To:

Company: ENVIRONOVA LLC

E-Mail: pgarrett@environova.co

Tele: (415) 408-5691 Fax: ( )

Project #: 9081 Project Name:

Project Location: 100 CALIFORNIA ST. S.F

Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other
100-PCB-1	WEST CURTAIN	6/4/09								X				
100-PCB-2	WEST GRANITE	6/4/09								X				
100-PCB-3	EAST WINDOW 7	6/4/09								X				
100-PCB-4	EAST SEALANT 7	6/4/09								X				
100-PCB-5	EAST WINDOW 13	6/4/09								X				
100-PCB-6	EAST SEALANT 13	6/4/09								X				

Analysis Request

SAMPLE ID	BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other	Comments
100-PCB-1								X										
100-PCB-2								X										
100-PCB-3								X										
100-PCB-4								X										
100-PCB-5								X										
100-PCB-6								X										

Comments: Filter Samples for Metals analysis: Yes / No

Relinquished By:	Date:	Time:	Received By:
PAT GARRETT	6/4/09	1625	[signature]
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° 0.26.2°C
GOOD CONDITION ✓
HEAD SPACE ABSENT N/A
DECHLORINATED IN LAB N/A
APPROPRIATE CONTAINERS ✓
PRESERVED IN LAB N/A

COMMENTS:

	VOAS	O&G	METALS	OTHER
PRESERVATION			pH<2	

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0906159 **ClientCode: EVNN**

☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Pat Garrett
EnviroNova
110 Landing Court, Suite B
Novato, CA 94945-4122
415-883-7575 FAX 415-883-7475

Email: pgarrett@environova.com
cc:
PO:
ProjectNo: #9081

Bill to:
Accounts Payable
EnviroNova
110 Landing Court, Suite B
Novato, CA 94945-4122
accounts@environova.com

Requested TAT: 1 day
Date Received: 06/04/2009
Date Printed: 06/04/2009

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0906159-001	100-PCB-1	Solid	6/4/2009	☐	A											
0906159-002	100-PCB-2	Solid	6/4/2009	☐	A											
0906159-003	100-PCB-3	Solid	6/4/2009	☐	A											
0906159-004	100-PCB-4	Solid	6/4/2009	☐	A											
0906159-005	100-PCB-5	Solid	6/4/2009	☐	A											
0906159-006	100-PCB-6	Solid	6/4/2009	☐	A											

Test Legend:

1	8082A_PCB_Solid	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Samantha Arbuckle

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **EnviroNova**
Date and Time Received: **06/04/09 5:05:16 PM**
Project Name: **#9081**
Checklist completed and reviewed by: Samantha Arbuckle
WorkOrder N°: **0906159** Matrix Solid
Carrier: Client Drop-In

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 26.2°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☐	No ☑	

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

McCampbell Analytical, Inc.
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Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova	Client Project ID: #9081	Date Sampled: 06/04/09
		Date Received: 06/04/09
110 Landing Court, Suite B	Client Contact: Pat Garrett	Date Extracted: 06/04/09
Novato, CA 94945-4122	Client P.O.:	Date Analyzed: 06/05/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0906159

Lab ID	0906159-001A	0906159-002A	0906159-003A	0906159-004A	Reporting Limit for DF =1	
Client ID	100-PCB-1	100-PCB-2	100-PCB-3	100-PCB-4		
Matrix	S	S	S	S		
DF	50	20	2000	5000	S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<25	ND<10	ND<1000	ND<2500	0.025	NA
Aroclor1221	ND<25	ND<10	ND<1000	ND<2500	0.025	NA
Aroclor1232	ND<25	ND<10	ND<1000	ND<2500	0.025	NA
Aroclor1242	ND<25	ND<10	ND<1000	ND<2500	0.025	NA
Aroclor1248	ND<25	ND<10	ND<1000	ND<2500	0.025	NA
Aroclor1254	150	14	4100	18,000	0.025	NA
Aroclor1260	ND<25	ND<10	4700	ND<2500	0.025	NA
PCBs, total	150	14	8800	18,000	0.025	NA
Surrogate Recoveries (%)						
%SS:	103	87	---#	---#		
Comments	h4	h4	h4	h4		

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova	Client Project ID: #9081	Date Sampled: 06/04/09
		Date Received: 06/04/09
110 Landing Court, Suite B	Client Contact: Pat Garrett	Date Extracted: 06/04/09
Novato, CA 94945-4122	Client P.O.:	Date Analyzed: 06/05/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0906159

					Reporting Limit for DF =1	
Lab ID	0906159-005A	0906159-006A				
Client ID	100-PCB-5	100-PCB-6				
Matrix	S	S				
DF	5000	5000			S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<2500	ND<2500			0.025	NA
Aroclor1221	ND<2500	ND<2500			0.025	NA
Aroclor1232	ND<2500	ND<2500			0.025	NA
Aroclor1242	ND<2500	ND<2500			0.025	NA
Aroclor1248	ND<2500	ND<2500			0.025	NA
Aroclor1254	15,000	15,000			0.025	NA
Aroclor1260	ND<2500	ND<2500			0.025	NA
PCBs, total	15,000	15,000			0.025	NA
Surrogate Recoveries (%)						
%SS:	---#	---#				
Comments	h4	h4				

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8082

W.O. Sample Matrix: Solid QC Matrix: Soil BatchID: 43664 WorkOrder: 0906159

EPA Method SW8082 **Extraction SW3550C** **Spiked Sample ID: 0906169-001A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Aroclor1260	0.52	0.075	NR	NR	NR	98.4	109	10.2	70 - 130	20	70 - 130	20
%SS:	115	0.050	89	97	8.58	71	78	9.53	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 43664 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0906159-001A	06/04/09	06/04/09	06/05/09 1:40 AM	0906159-002A	06/04/09	06/04/09	06/05/09 9:42 PM
0906159-003A	06/04/09	06/04/09	06/05/09 9:42 PM	0906159-004A	06/04/09	06/04/09	06/05/09 4:40 PM
0906159-005A	06/04/09	06/04/09	06/05/09 2:50 PM	0906159-006A	06/04/09	06/04/09	06/05/09 2:50 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova 110 Landing Court, Suite B Novato, CA 94945-4122	Client Project ID: #9081; 100 California St. SF	Date Sampled: 06/04/09
		Date Received: 06/05/09
	Client Contact: Pat Garrett	Date Reported: 06/08/09
	Client P.O.:	Date Completed: 06/08/09

WorkOrder: 0906202

June 08, 2009

Dear Pat:

Enclosed within are:

1) The results of the **4** analyzed samples from your project: **#9081; 100 California St. SF,**
2) A QC report for the above samples,
3) A copy of the chain of custody, and
4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

0906202

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☒ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAY

☐ GeoTracker EDF ☐ PDF ☐ Excel ☐ Write On (DW)

Report To: Pat Garrett Bill To:
Company: Environmental, LLC
E-Mail: garrett@environmental.com
Tele: (415) 408-8691 Fax: ( )
Project #: 9081 Project Name:
Project Location: 100 California St. S.F.
Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED ICE	HCL	HNO_3	Other
100-PCb-7	13 WS	6-1-09								X				
100-PCb-8	13 CP	"								X				
100-PCb-9	7 WS									X				
100-PCb-10	7 CP									X				
~~100-PCb-11~~														
~~100-PCb-12~~														

Analysis Request

MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic CI Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other			Comments
							X												Filter Samples for Metals analysis: Yes / No
							X												
							X												
							X												

Relinquished By:	Date:	Time:	Received By:
	6-5-09	3:40pm	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° 10
GOOD CONDITION ✓
HEAD SPACE ABSENT
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS ✓
PRESERVED IN LAB

COMMENTS:

	VOAS	O&G	METALS	OTHER
PRESERVATION			pH<2	

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0906202 **ClientCode: EVNN**

☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Pat Garrett
EnviroNova
110 Landing Court, Suite B
Novato, CA 94945-4122
415-883-7575 FAX 415-883-7475

Email: pgarrett@environova.com
cc:
PO:
ProjectNo: #9081; 100 California St. SF

Bill to:
Accounts Payable
EnviroNova
110 Landing Court, Suite B
Novato, CA 94945-4122
accounts@environova.com

Requested TAT: 1 day

Date Received: 06/05/2009
Date Printed: 06/05/2009

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0906202-001	100-Pcb-7	Solid	6/4/2009	☐	A											
0906202-002	100-Pcb-8	Solid	6/4/2009	☐	A											
0906202-003	100-Pcb-9	Solid	6/4/2009	☐	A											
0906202-004	100-Pcb-10	Solid	6/4/2009	☐	A											

Test Legend:

1	8082A_PCB_Solid	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Maria Venegas

Comments: 24hr Rush

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **EnviroNova**
Date and Time Received: **06/05/09 3:47:15 PM**

Project Name: **#9081; 100 California St. SF**
Checklist completed and reviewed by: Maria Venegas

WorkOrder N°: **0906202** Matrix Solid
Carrier: Client Drop-In

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☐	No ☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp:		NA ☑
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☐	No ☑	

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

McCampbell Analytical, Inc.
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Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova	Client Project ID: #9081; 100 California St. SF	Date Sampled: 06/04/09
		Date Received: 06/05/09
110 Landing Court, Suite B	Client Contact: Pat Garrett	Date Extracted: 06/05/09
Novato, CA 94945-4122	Client P.O.:	Date Analyzed 06/06/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0906202

Lab ID	0906202-001A	0906202-002A	0906202-003A	0906202-004A	Reporting Limit for DF =1	
Client ID	100-Pcb-7	100-Pcb-8	100-Pcb-9	100-Pcb-10		
Matrix	S	S	S	S		
DF	10000	10000	5000	10000	S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<5000	ND<5000	ND<2500	ND<5000	0.025	NA
Aroclor1221	ND<5000	ND<5000	ND<2500	ND<5000	0.025	NA
Aroclor1232	ND<5000	ND<5000	ND<2500	ND<5000	0.025	NA
Aroclor1242	ND<5000	ND<5000	ND<2500	ND<5000	0.025	NA
Aroclor1248	ND<5000	ND<5000	ND<2500	ND<5000	0.025	NA
Aroclor1254	15,000	29,000	9400	38,000	0.025	NA
Aroclor1260	ND<5000	ND<5000	ND<2500	ND<5000	0.025	NA
PCBs, total	15,000	29,000	9400	38,000	0.025	NA
Surrogate Recoveries (%)						
%SS:	---#	---#	---#	---#		
Comments	h4	h4	h4	h4		

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR SW8082

W.O. Sample Matrix: Solid QC Matrix: Soil BatchID: 43632 WorkOrder: 0906202

EPA Method SW8082 **Extraction SW3550C** **Spiked Sample ID: 0906192-001A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Aroclor1260	2.0	0.075	NR	NR	NR	110	108	1.28	70 - 130	20	70 - 130	20
%SS:	123	0.050	85	86	1.35	99	99	0	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 43632 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0906202-001A	06/04/09	06/05/09	06/06/09 5:01 PM	0906202-002A	06/04/09	06/05/09	06/06/09 5:01 PM
0906202-003A	06/04/09	06/05/09	06/06/09 5:57 PM	0906202-004A	06/04/09	06/05/09	06/06/09 5:57 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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"When Quality Counts"

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Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova 110 Landing Court, Suite B Novato, CA 94945-4122	Client Project ID: #9081; 100 California Street	Date Sampled: 06/08/09
		Date Received: 06/08/09
	Client Contact: Pat Garrett	Date Reported: 06/09/09
	Client P.O.:	Date Completed: 06/09/09

WorkOrder: 0906250

June 10, 2009

Dear Pat:

Enclosed within are:

1) The results of the **11** analyzed samples from your project: **#9081; 100 California Street,**
2) A QC report for the above samples,
3) A copy of the chain of custody, and
4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

0906250

McCAMPBELL ANALYTICAL, INC.

RUSH

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☒ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAY

☐ GeoTracker EDF ☐ PDF ☐ Excel ☐ Write On (DW)

Report To: PAT Garrett Bill To:
Company: EnviroNova
E-Mail: pgarrett@environova.com
Tele: (415) 408-8691 Fax: ( )
Project #: 9081 Project Name:
Project Location: 100 California St.
Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 (8082 PCB's ONLY; Aroclors / Congeners)	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other			Comments
9081-WM 1	Clm#18	6/8/09								X												X												Filter Samples for Metals analysis: Yes / No
9081-WM 2	clm# 20									X												X												
9081-WM 3	Clm#16									X												X												
9081-WM 4	Clm#14									X												X												
9081-WM 5	Clm#12									X												X												
9081-WM 6	clm# 11									X												X												
9081-WM 7	Clm# 10									X												X												
9081-WM 8	Clm# 9									X												X												
9081-WM 9	clm# 7									X												X												
9081-WM 10	clm# 5									X												X												
9081-WM 11	clm# 3									X												X												

Relinquished By:	Date:	Time:	Received By:
	6/8/09	606	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t°
GOOD CONDITION
HEAD SPACE ABSENT
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS
PRESERVED IN LAB

COMMENTS:

	VOAS	O&G	METALS	OTHER
PRESERVATION			pH<2	

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0906250 **ClientCode: EVNN**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Pat Garrett
EnviroNova
110 Landing Court, Suite B
Novato, CA 94945-4122
415-883-7575 FAX 415-883-7475

Email: pgarrett@environova.com
cc:
PO:
ProjectNo: #9081; 100 California Street

Bill to:
Accounts Payable
EnviroNova
110 Landing Court, Suite B
Novato, CA 94945-4122
accounts@environova.com

Requested TAT: 1 day

Date Received: 06/08/2009
Date Printed: 06/08/2009

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0906250-001	9081-WM 1	Solid	6/8/2009	☐	A											
0906250-002	9081-WM 2	Solid	6/8/2009	☐	A											
0906250-003	9081-WM 3	Solid	6/8/2009	☐	A											
0906250-004	9081-WM 4	Solid	6/8/2009	☐	A											
0906250-005	9081-WM 5	Solid	6/8/2009	☐	A											
0906250-006	9081-WM 6	Solid	6/8/2009	☐	A											
0906250-007	9081-WM 7	Solid	6/8/2009	☐	A											
0906250-008	9081-WM 8	Solid	6/8/2009	☐	A											
0906250-009	9081-WM 9	Solid	6/8/2009	☐	A											
0906250-010	9081-WM 10	Solid	6/8/2009	☐	A											
0906250-011	9081-WM 11	Solid	6/8/2009	☐	A											

Test Legend:

1	8082A_PCB_Solid	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Ana Venegas

Comments: 24hr rush

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **EnviroNova**
Date and Time Received: **6/8/2009 6:16:09 PM**

Project Name: **#9081; 100 California Street**
Checklist completed and reviewed by: Ana Venegas

WorkOrder N°: **0906250** Matrix Solid
Carrier: Client Drop-In

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp:		NA ☑
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☐	No ☑	

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

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Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova	Client Project ID: #9081; 100 California Street	Date Sampled: 06/08/09
		Date Received: 06/08/09
110 Landing Court, Suite B	Client Contact: Pat Garrett	Date Extracted: 06/08/09
Novato, CA 94945-4122	Client P.O.:	Date Analyzed: 06/09/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0906250

Lab ID	0906250-001A	0906250-002A	0906250-003A	0906250-004A	Reporting Limit for DF =1	
Client ID	9081-WM 1	9081-WM 2	9081-WM 3	9081-WM 4		
Matrix	S	S	S	S		
DF	5	100	200	100	S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<2.5	ND<50	ND<100	ND<50	0.025	NA
Aroclor1221	ND<2.5	ND<50	ND<100	ND<50	0.025	NA
Aroclor1232	ND<2.5	ND<50	ND<100	ND<50	0.025	NA
Aroclor1242	ND<2.5	ND<50	ND<100	ND<50	0.025	NA
Aroclor1248	ND<2.5	ND<50	ND<100	ND<50	0.025	NA
Aroclor1254	8.4	ND<50	ND<100	ND<50	0.025	NA
Aroclor1260	ND<2.5	ND<50	ND<100	ND<50	0.025	NA
PCBs, total	8.4	ND<50	ND<100	ND<50	0.025	NA
Surrogate Recoveries (%)						
%SS:	116	---#	---#	---#		
Comments	h4	a1,a14,h4	a1,a14,h4	a1,a14,h4		

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

a1) sample diluted due to matrix interference
a14) reporting limit raised due to the physical nature of the sample
h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova	Client Project ID: #9081; 100 California Street	Date Sampled: 06/08/09
		Date Received: 06/08/09
110 Landing Court, Suite B	Client Contact: Pat Garrett	Date Extracted: 06/08/09
Novato, CA 94945-4122	Client P.O.:	Date Analyzed: 06/09/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0906250

Lab ID	0906250-005A	0906250-006A	0906250-007A	0906250-008A	Reporting Limit for DF =1	
Client ID	9081-WM 5	9081-WM 6	9081-WM 7	9081-WM 8		
Matrix	S	S	S	S		
DF	2	10	10	10	S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<1.0	ND<5.0	ND<5.0	ND<5.0	0.025	NA
Aroclor1221	ND<1.0	ND<5.0	ND<5.0	ND<5.0	0.025	NA
Aroclor1232	ND<1.0	ND<5.0	ND<5.0	ND<5.0	0.025	NA
Aroclor1242	ND<1.0	ND<5.0	ND<5.0	ND<5.0	0.025	NA
Aroclor1248	ND<1.0	ND<5.0	ND<5.0	ND<5.0	0.025	NA
Aroclor1254	3.1	21	ND<5.0	ND<5.0	0.025	NA
Aroclor1260	ND<1.0	ND<5.0	ND<5.0	ND<5.0	0.025	NA
PCBs, total	3.1	21	ND<5.0	ND<5.0	0.025	NA
Surrogate Recoveries (%)						
%SS:	81	100	---#	---#		
Comments	h4	h4	a1,a14,h4	a1,a14,h4		

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

a1) sample diluted due to matrix interference
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Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova	Client Project ID: #9081; 100 California Street	Date Sampled: 06/08/09
		Date Received: 06/08/09
110 Landing Court, Suite B	Client Contact: Pat Garrett	Date Extracted: 06/08/09
Novato, CA 94945-4122	Client P.O.:	Date Analyzed: 06/09/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0906250

Lab ID	0906250-009A	0906250-010A	0906250-011A		Reporting Limit for DF =1	
Client ID	9081-WM 9	9081-WM 10	9081-WM 11			
Matrix	S	S	S			
DF	10	10	10		S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<5.0	ND<5.0	ND<5.0		0.025	NA
Aroclor1221	ND<5.0	ND<5.0	ND<5.0		0.025	NA
Aroclor1232	ND<5.0	ND<5.0	ND<5.0		0.025	NA
Aroclor1242	ND<5.0	ND<5.0	ND<5.0		0.025	NA
Aroclor1248	ND<5.0	ND<5.0	ND<5.0		0.025	NA
Aroclor1254	22	18	12		0.025	NA
Aroclor1260	ND<5.0	ND<5.0	ND<5.0		0.025	NA
PCBs, total	22	18	12		0.025	NA
Surrogate Recoveries (%)						
%SS:	101	78	76			
Comments	h4	h4	h4			

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

a1) sample diluted due to matrix interference
a14) reporting limit raised due to the physical nature of the sample
h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR SW8082

W.O. Sample Matrix: Solid QC Matrix: Soil BatchID: 43632 WorkOrder: 0906250

EPA Method SW8082 **Extraction SW3550C** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Aroclor1260	N/A	0.075	NR	NR	NR	110	108	1.28	0 - 0	0	70 - 130	20
%SS:	123	0.050	N/A	N/A	N/A	99	99	0	N/A	N/A	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 43632 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0906250-001A	06/08/09	06/08/09	06/09/09 11:39 AM	0906250-002A	06/08/09	06/08/09	06/09/09 5:33 PM
0906250-003A	06/08/09	06/08/09	06/09/09 5:21 PM	0906250-004A	06/08/09	06/08/09	06/09/09 4:24 PM
0906250-005A	06/08/09	06/08/09	06/09/09 11:46 AM	0906250-006A	06/08/09	06/08/09	06/09/09 11:46 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

McCampbell Analytical, Inc.
"When Quality Counts"

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QC SUMMARY REPORT FOR SW8082

W.O. Sample Matrix: Solid QC Matrix: Soil BatchID: 43664 WorkOrder: 0906250

EPA Method SW8082 **Extraction SW3550C** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Aroclor1260	N/A	0.075	NR	NR	NR	98.4	109	10.2	0 - 0	0	70 - 130	20
%SS:	115	0.050	N/A	N/A	N/A	71	78	9.53	N/A	N/A	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 43664 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0906250-007A	06/08/09	06/08/09	06/09/09 5:21 PM	0906250-008A	06/08/09	06/08/09	06/09/09 4:24 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS ELAP Certification 1644

QA/QC Officer

McCampbell Analytical, Inc.
"When Quality Counts"

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8082

W.O. Sample Matrix: Solid QC Matrix: Soil BatchID: 43734 WorkOrder: 0906250

EPA Method SW8082 **Extraction SW3550C** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Aroclor1260	N/A	0.075	N/A	N/A	N/A	100	103	2.38	N/A	N/A	70 - 130	20
%SS:	N/A	0.050	N/A	N/A	N/A	88	101	13.7	N/A	N/A	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 43734 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0906250-009A	06/08/09	06/08/09	06/09/09 1:37 PM	0906250-010A	06/08/09	06/08/09	06/09/09 2:33 PM
0906250-011A	06/08/09	06/08/09	06/09/09 3:28 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova 110 Landing Court, Suite B Novato, CA 94945-4122	Client Project ID: #9081; 100 California St	Date Sampled: 06/08/09
		Date Received: 06/08/09
	Client Contact: Pat Garrett	Date Reported: 06/10/09
	Client P.O.:	Date Completed: 06/10/09

WorkOrder: 0906253

June 10, 2009

Dear Pat:

Enclosed within are:

1) The results of the **11** analyzed samples from your project: **#9081; 100 California St,**
2) A QC report for the above samples,
3) A copy of the chain of custody, and
4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

0906253

RUSH

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☒ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAY

☐ GeoTracker EDF ☐ PDF ☒ Excel ☐ Write On (DW)

Report To: Pat Garrett Bill To:
Company: EnviroNova
E-Mail: pgarrett@environova.com
Tele: (415) 408-8691 Fax: ( )
Project #: 9081 Project Name:
Project Location: 100 California St.
Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 (8082 PCB's ONLY); Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other			Comments
9081-BM 1	clm #18	6/8/09								X												X												Filter Samples for Metals analysis: Yes / No
9081-BM 2	clm# 20									X												X												
9081-BM 3	clm# 16									X												X												
9081-BM 4	clm# 14									X												X												
9081-BM 5	clm # 12									X												X												
9081-BM 6	clm # 11									X												X												
9081-BM 7	clm# 10									X												X												
9081-BM 8	clm# 9									X												X												
9081-BM 9	clm # 7									X												X												
9081-BM 10	clm# 5									X												X												
9081-BM 11	clm# 3									X												X												

Analysis Request | Other | Comments

Relinquished By:	Date:	Time:	Received By:
	6-9-09	6:06	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/T° N/A
GOOD CONDITION
HEAD SPACE ABSENT
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS
PRESERVED IN LAB

COMMENTS:

	VOAS	O&G	METALS	OTHER
PRESERVATION			pH<2	

McCampbell Analytical, Inc.
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(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0906253 **ClientCode: EVNN**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Pat Garrett
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Novato, CA 94945-4122
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Email: pgarrett@environova.com
cc:
PO:
ProjectNo: #9081; 100 California St

Bill to:
Accounts Payable
EnviroNova
110 Landing Court, Suite B
Novato, CA 94945-4122
accounts@environova.com

Requested TAT: 1 day

Date Received: 06/08/2009
Date Printed: 06/08/2009

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0906253-001	9081-BM 1	Solid	6/8/2009	☐	A											
0906253-002	9081-BM 2	Solid	6/8/2009	☐	A											
0906253-003	9081-BM 3	Solid	6/8/2009	☐	A											
0906253-004	9081-BM 4	Solid	6/8/2009	☐	A											
0906253-005	9081-BM 5	Solid	6/8/2009	☐	A											
0906253-006	9081-BM 6	Solid	6/8/2009	☐	A											
0906253-007	9081-BM 7	Solid	6/8/2009	☐	A											
0906253-008	9081-BM 8	Solid	6/8/2009	☐	A											
0906253-009	9081-BM 9	Solid	6/8/2009	☐	A											
0906253-010	9081-BM 10	Solid	6/8/2009	☐	A											
0906253-011	9081-BM 11	Solid	6/8/2009	☐	A											

Test Legend:

1	8082A_PCB_Solid	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Ana Venegas

Comments: 24hr rush

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **EnviroNova**
Date and Time Received: **6/8/2009 6:31:59 PM**

Project Name: **#9081; 100 California St**
Checklist completed and reviewed by: Ana Venegas

WorkOrder N°: **0906253** Matrix Solid
Carrier: Derik Cartan (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp:		NA ☑
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☐	No ☑	

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

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Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova	Client Project ID: #9081; 100 California St	Date Sampled: 06/08/09
		Date Received: 06/08/09
110 Landing Court, Suite B	Client Contact: Pat Garrett	Date Extracted: 06/08/09
Novato, CA 94945-4122	Client P.O.:	Date Analyzed 06/09/09-06/10/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0906253

Lab ID	0906253-001A	0906253-002A	0906253-003A	0906253-004A	Reporting Limit for DF =1	
Client ID	9081-BM 1	9081-BM 2	9081-BM 3	9081-BM 4		
Matrix	S	S	S	S		
DF	10	10	10	5	S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<5.0	ND<5.0	ND<5.0	ND<2.5	0.025	NA
Aroclor1221	ND<5.0	ND<5.0	ND<5.0	ND<2.5	0.025	NA
Aroclor1232	ND<5.0	ND<5.0	ND<5.0	ND<2.5	0.025	NA
Aroclor1242	ND<5.0	ND<5.0	ND<5.0	ND<2.5	0.025	NA
Aroclor1248	ND<5.0	ND<5.0	ND<5.0	ND<2.5	0.025	NA
Aroclor1254	ND<5.0	6.1	13	9.5	0.025	NA
Aroclor1260	ND<5.0	ND<5.0	ND<5.0	ND<2.5	0.025	NA
PCBs, total	ND<5.0	6.1	13	9.5	0.025	NA
Surrogate Recoveries (%)						
%SS:	---#	---#	89	90		
Comments	a1,a14,h4	h4	h4	h4		

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

a1) sample diluted due to matrix interference
a14) reporting limit raised due to the physical nature of the sample
h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

AR Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova	Client Project ID: #9081; 100 California St	Date Sampled: 06/08/09
		Date Received: 06/08/09
110 Landing Court, Suite B	Client Contact: Pat Garrett	Date Extracted: 06/08/09
Novato, CA 94945-4122	Client P.O.:	Date Analyzed 06/09/09-06/10/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0906253

Lab ID	0906253-005A	0906253-006A	0906253-007A	0906253-008A	Reporting Limit for DF =1	
Client ID	9081-BM 5	9081-BM 6	9081-BM 7	9081-BM 8		
Matrix	S	S	S	S		
DF	1	20	50	50	S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<0.50	ND<10	ND<25	ND<25	0.025	NA
Aroclor1221	ND<0.50	ND<10	ND<25	ND<25	0.025	NA
Aroclor1232	ND<0.50	ND<10	ND<25	ND<25	0.025	NA
Aroclor1242	ND<0.50	ND<10	ND<25	ND<25	0.025	NA
Aroclor1248	ND<0.50	ND<10	ND<25	ND<25	0.025	NA
Aroclor1254	1.6	ND<10	ND<25	ND<25	0.025	NA
Aroclor1260	ND<0.50	ND<10	ND<25	ND<25	0.025	NA
PCBs, total	1.6	ND<10	ND<25	ND<25	0.025	NA
Surrogate Recoveries (%)						
%SS:	126	---#	---#	---#		
Comments	h4	a1,a14,h4	a1,a14,h4	a1,a14,h4		

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

a1) sample diluted due to matrix interference
a14) reporting limit raised due to the physical nature of the sample
h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova	Client Project ID: #9081; 100 California St	Date Sampled: 06/08/09
		Date Received: 06/08/09
110 Landing Court, Suite B	Client Contact: Pat Garrett	Date Extracted: 06/08/09
Novato, CA 94945-4122	Client P.O.:	Date Analyzed 06/09/09-06/10/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0906253

Lab ID	0906253-009A	0906253-010A	0906253-011A		Reporting Limit for DF =1	
Client ID	9081-BM 9	9081-BM 10	9081-BM 11			
Matrix	S	S	S			
DF	20	100	20		S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<10	ND<50	ND<10		0.025	NA
Aroclor1221	ND<10	ND<50	ND<10		0.025	NA
Aroclor1232	ND<10	ND<50	ND<10		0.025	NA
Aroclor1242	ND<10	ND<50	ND<10		0.025	NA
Aroclor1248	ND<10	ND<50	ND<10		0.025	NA
Aroclor1254	ND<10	61	ND<10		0.025	NA
Aroclor1260	ND<10	ND<50	ND<10		0.025	NA
PCBs, total	ND<10	61	ND<10		0.025	NA
Surrogate Recoveries (%)						
%SS:	---#	---#	---#			
Comments	a1,a14,h4	h4	a1,a14,h4			

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

a1) sample diluted due to matrix interference
a14) reporting limit raised due to the physical nature of the sample
h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR SW8082

W.O. Sample Matrix: Solid QC Matrix: Soil BatchID: 43734 WorkOrder 0906253

EPA Method SW8082 **Extraction SW3550C** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Aroclor1260	N/A	0.075	N/A	N/A	N/A	100	103	2.38	N/A	N/A	70 - 130	20
%SS:	N/A	0.050	N/A	N/A	N/A	88	101	13.7	N/A	N/A	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 43734 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0906253-001A	06/08/09	06/08/09	06/10/09 11:11 AM	0906253-002A	06/08/09	06/08/09	06/10/09 11:11 AM
0906253-003A	06/08/09	06/08/09	06/09/09 3:27 PM	0906253-004A	06/08/09	06/08/09	06/09/09 4:06 PM
0906253-005A	06/08/09	06/08/09	06/09/09 1:32 PM	0906253-006A	06/08/09	06/08/09	06/09/09 4:24 PM
0906253-007A	06/08/09	06/08/09	06/09/09 6:18 PM	0906253-008A	06/08/09	06/08/09	06/09/09 10:06 PM
0906253-009A	06/08/09	06/08/09	06/09/09 5:33 PM	0906253-010A	06/08/09	06/08/09	06/09/09 9:56 PM
0906253-011A	06/08/09	06/08/09	06/09/09 7:23 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova	Client Project ID: #9081	Date Sampled: 06/09/09
110 Landing Court, Suite B		Date Received: 06/09/09
Novato, CA 94945-4122	Client Contact: Pat Garrett	Date Reported: 06/12/09
	Client P.O.:	Date Completed: 06/12/09

WorkOrder: 0906293

June 12, 2009

Dear Pat:

Enclosed within are:

1) The results of the **6** analyzed samples from your project: **#9081,**
2) A QC report for the above samples,
3) A copy of the chain of custody, and
4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

RUSH

CHAIN OF CUSTODY RECORD

JA06293

TURN AROUND TIME ❑ RUSH ❑ 24 HR ❑ 48 HR ❑ 72 HR ☒ 4 DAY

❑ GeoTracker EDF ❑ PDF ❑ Excel ❑ Write On (DW)

Report To: PAT GARNETT Bill To:
Company: ENVIRONOVA
E-Mail: pgarnett@environova.com
Tele: (415) 408-8691 Fax: ( )
Project #: 9081 Project Name:
Project Location: 100 CALIFORNIA STREET
Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other
9081-WGP-1	D2-13	6-9-09								X				
9081-WGP-2	D2-9									X				
9081-WGP-3	D2-7									X				
9081-CUM-1	D2-13									X				
9081-CUM-2	D2-9									X				
9081-CUM-3	D2-7									X				

Analysis Request

MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other			Comments
							X												Filter Samples for Metals analysis: Yes / No
							X												
							X												
							X												
							X												
							X												

Relinquished By:	Date:	Time:	Received By:
	6-9-09	1539	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/T 5°C
GOOD CONDITION ✓
HEAD SPACE ABSENT
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS ✓
PRESERVED IN LAB

COMMENTS:

	VOAS	O&G	METALS	OTHER
PRESERVATION			pH<2	

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0906293 **ClientCode: EVNN**

☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Pat Garrett
EnviroNova
110 Landing Court, Suite B
Novato, CA 94945-4122
415-883-7575 FAX 415-883-7475

Email: pgarrett@environova.com
cc:
PO:
ProjectNo: #9081

Bill to:
Accounts Payable
EnviroNova
110 Landing Court, Suite B
Novato, CA 94945-4122
accounts@environova.com

Requested TAT: 3 days

Date Received: 06/09/2009
Date Printed: 06/09/2009

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
0906293-001	9081-WGP-1	Solid	6/9/2009	☐	A											
0906293-002	9081-WGP-2	Solid	6/9/2009	☐	A											
0906293-003	9081-WGP-3	Solid	6/9/2009	☐	A											
0906293-004	9081-CVM-1	Solid	6/9/2009	☐	A											
0906293-005	9081-CVM-2	Solid	6/9/2009	☐	A											
0906293-006	9081-CVM-3	Solid	6/9/2009	☐	A											

Test Legend:

1	8082A_PCB_Solid	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Melissa Valles

Comments: Due Friday COB

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **EnviroNova**
Date and Time Received: **6/9/09 4:02:33 PM**
Project Name: **#9081**
Checklist completed and reviewed by: Melissa Valles
WorkOrder N°: **0906293** Matrix Solid
Carrier: Client Drop-In

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☐	No ☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 25.8°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☐	No ☑	

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

McCampbell Analytical, Inc.
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Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova	Client Project ID: #9081	Date Sampled: 06/09/09
		Date Received: 06/09/09
110 Landing Court, Suite B	Client Contact: Pat Garrett	Date Extracted: 06/09/09
Novato, CA 94945-4122	Client P.O.:	Date Analyzed 06/09/09-06/12/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0906293

Lab ID	0906293-001A	0906293-002A	0906293-003A	0906293-004A	Reporting Limit for DF =1	
Client ID	9081-WGP-1	9081-WGP-2	9081-WGP-3	9081-CVM-1		
Matrix	S	S	S	S		
DF	100	20	10	100	S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<50	ND<10	ND<5.0	ND<50	0.025	NA
Aroclor1221	ND<50	ND<10	ND<5.0	ND<50	0.025	NA
Aroclor1232	ND<50	ND<10	ND<5.0	ND<50	0.025	NA
Aroclor1242	ND<50	ND<10	ND<5.0	ND<50	0.025	NA
Aroclor1248	ND<50	ND<10	ND<5.0	ND<50	0.025	NA
Aroclor1254	230	23	12	230	0.025	NA
Aroclor1260	ND<50	ND<10	ND<5.0	ND<50	0.025	NA
PCBs, total	230	23	12	230	0.025	NA
Surrogate Recoveries (%)						
%SS:	---#	---#	---#	---#		
Comments	h4	h4	h4	h4		

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova	Client Project ID: #9081	Date Sampled: 06/09/09
		Date Received: 06/09/09
110 Landing Court, Suite B	Client Contact: Pat Garrett	Date Extracted: 06/09/09
Novato, CA 94945-4122	Client P.O.:	Date Analyzed 06/09/09-06/12/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0906293

Lab ID	0906293-005A	0906293-006A			Reporting Limit for DF =1	
Client ID	9081-CVM-2	9081-CVM-3				
Matrix	S	S				
DF	100	1000			S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<50	ND<500			0.025	NA
Aroclor1221	ND<50	ND<500			0.025	NA
Aroclor1232	ND<50	ND<500			0.025	NA
Aroclor1242	ND<50	ND<500			0.025	NA
Aroclor1248	ND<50	ND<500			0.025	NA
Aroclor1254	440	910			0.025	NA
Aroclor1260	ND<50	ND<500			0.025	NA
PCBs, total	440	910			0.025	NA
Surrogate Recoveries (%)						
%SS:	---#	---#				
Comments	h4	h4				

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8082

W.O. Sample Matrix: Solid QC Matrix: Soil BatchID: 43755 WorkOrder: 0906293

EPA Method SW8082 **Extraction SW3550C** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Aroclor1260	N/A	0.075	N/A	N/A	N/A	109	107	2.15	N/A	N/A	70 - 130	20
%SS:	N/A	0.050	N/A	N/A	N/A	107	108	0.485	N/A	N/A	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 43755 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0906293-001A	06/09/09	06/09/09	06/11/09 10:12 AM	0906293-002A	06/09/09	06/09/09	06/11/09 6:57 PM
0906293-003A	06/09/09	06/09/09	06/11/09 7:52 PM	0906293-003A	06/09/09	06/09/09	06/12/09 1:21 AM
0906293-004A	06/09/09	06/09/09	06/11/09 12:58 PM	0906293-005A	06/09/09	06/09/09	06/11/09 4:10 PM
0906293-006A	06/09/09	06/09/09	06/09/09 11:42 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS ELAP Certification 1644

QA/QC Officer

McCampbell Analytical, Inc.
"When Quality Counts"

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova 110 Landing Court, Suite B Novato, CA 94945-4122	Client Project ID: #9081	Date Sampled: 06/09/09
		Date Received: 06/09/09
	Client Contact: Pat Garrett	Date Reported: 06/12/09
	Client P.O.:	Date Completed: 06/12/09

WorkOrder: 0906294

June 12, 2009

Dear Pat:

Enclosed within are:

1) The results of the 6 analyzed samples from your project: **#9081,**
2) A QC report for the above samples,
3) A copy of the chain of custody, and
4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

0906294

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

RUSH

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 4 DAY

☐ GeoTracker EDF ☐ PDF ☐ Excel ☐ Write On (DW)

Report To: PAT GARRETT Bill To:
Company: ENVIRONOVA LLC
E-Mail:
Tele: (415) 408-8691 Fax: ( )
Project #: 9081 Project Name:
Project Location: 100 CALIFORNIA STREET
Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	MTBE / BTEX & TPH as Gas (602 / 8021 + 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other			Comments
9081-WGP-4	D13-13	6-9-09								X												X												Filter Samples for Metals analysis: Yes / No
9081-WGP-5	D13-9									X												X												
9081-WGP-6	D13-7									X												X												
9081-CVM-4	D13-13									X												X												
9081-CVM-5	D13-9									X												X												
9081-CVM-6	D13-7									X												X												

Relinquished By:	Date:	Time:	Received By:
	6-9-09	1539	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° 25-C ✓
GOOD CONDITION
HEAD SPACE ABSENT
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS ✓
PRESERVED IN LAB

COMMENTS:

VOAS O&G METALS OTHER
PRESERVATION pH<2

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0906294 **ClientCode: EVNN**

☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Pat Garrett
EnviroNova
110 Landing Court, Suite B
Novato, CA 94945-4122
415-883-7575 FAX 415-883-7475

Email: pgarrett@environova.com
cc:
PO:
ProjectNo: #9081

Bill to:
Accounts Payable
EnviroNova
110 Landing Court, Suite B
Novato, CA 94945-4122
accounts@environova.com

Requested TAT: 4 days

Date Received: **06/09/2009**
Date Printed: **06/09/2009**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0906294-001	9081-WGP 4	Solid	6/9/2009	☐	A											
0906294-002	9081-WGP-5	Solid	6/9/2009	☐	A											
0906294-003	9081-WGP-6	Solid	6/9/2009	☐	A											
0906294-004	9081-CVM-4	Solid	6/9/2009	☐	A											
0906294-005	9081-CVM-5	Solid	6/9/2009	☐	A											
0906294-006	9081-CVM-6	Solid	6/9/2009	☐	A											

Test Legend:

1	8082A_PCB_Solid	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Melissa Valles

Comments: Due Friday COB

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **EnviroNova**
Date and Time Received: **6/9/09 4:09:00 PM**

Project Name: **#9081**
Checklist completed and reviewed by: Melissa Valles

WorkOrder N°: **0906294** Matrix Solid
Carrier: Client Drop-In

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 25.8°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☐	No ☑	

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

McCampbell Analytical, Inc.
"When Quality Counts"

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova	Client Project ID: #9081	Date Sampled: 06/09/09
		Date Received: 06/09/09
110 Landing Court, Suite B	Client Contact: Pat Garrett	Date Extracted: 06/09/09
Novato, CA 94945-4122	Client P.O.:	Date Analyzed 06/11/09-06/12/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0906294

Lab ID	0906294-001A	0906294-002A	0906294-003A	0906294-004A	Reporting Limit for DF =1	
Client ID	9081-WGP 4	9081-WGP-5	9081-WGP-6	9081-CVM-4		
Matrix	S	S	S	S		
DF	20	20	20	2000	S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<10	ND<10	ND<10	ND<1000	0.025	NA
Aroclor1221	ND<10	ND<10	ND<10	ND<1000	0.025	NA
Aroclor1232	ND<10	ND<10	ND<10	ND<1000	0.025	NA
Aroclor1242	ND<10	ND<10	ND<10	ND<1000	0.025	NA
Aroclor1248	ND<10	ND<10	ND<10	ND<1000	0.025	NA
Aroclor1254	37	37	40	2500	0.025	NA
Aroclor1260	ND<10	ND<10	ND<10	ND<1000	0.025	NA
PCBs, total	37	37	40	2500	0.025	NA
Surrogate Recoveries (%)						
%SS:	---#	---#	---#	---#		
Comments	h4	h4	h4	h4		

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova	Client Project ID: #9081	Date Sampled: 06/09/09
		Date Received: 06/09/09
110 Landing Court, Suite B	Client Contact: Pat Garrett	Date Extracted: 06/09/09
Novato, CA 94945-4122	Client P.O.:	Date Analyzed 06/11/09-06/12/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0906294

Lab ID	0906294-005A	0906294-006A			Reporting Limit for DF =1	
Client ID	9081-CVM-5	9081-CVM-6				
Matrix	S	S				
DF	2000	1000			S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<1000	ND<500			0.025	NA
Aroclor1221	ND<1000	ND<500			0.025	NA
Aroclor1232	ND<1000	ND<500			0.025	NA
Aroclor1242	ND<1000	ND<500			0.025	NA
Aroclor1248	ND<1000	ND<500			0.025	NA
Aroclor1254	2700	3500			0.025	NA
Aroclor1260	ND<1000	1700			0.025	NA
PCBs, total	2700	5200			0.025	NA
Surrogate Recoveries (%)						
%SS:	---#	---#				
Comments	h4	h4				

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8082

W.O. Sample Matrix: Solid QC Matrix: Soil BatchID: 43755 WorkOrder: 0906294

EPA Method SW8082 **Extraction SW3550C** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Aroclor1260	N/A	0.075	N/A	N/A	N/A	109	107	2.15	N/A	N/A	70 - 130	20
%SS:	N/A	0.050	N/A	N/A	N/A	107	108	0.485	N/A	N/A	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 43755 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0906294-001A	06/09/09	06/09/09	06/11/09 8:47 PM	0906294-002A	06/09/09	06/09/09	06/11/09 11:31 PM
0906294-003A	06/09/09	06/09/09	06/12/09 12:26 AM	0906294-004A	06/09/09	06/09/09	06/11/09 11:31 PM
0906294-005A	06/09/09	06/09/09	06/12/09 12:26 AM	0906294-006A	06/09/09	06/09/09	06/11/09 8:05 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova	Client Project ID: #9081	Date Sampled: 06/09/09
110 Landing Court, Suite B		Date Received: 06/09/09
Novato, CA 94945-4122	Client Contact: Pat Garrett	Date Reported: 06/12/09
	Client P.O.:	Date Completed: 06/12/09

WorkOrder: 0906292

June 12, 2009

Dear Pat:

Enclosed within are:

1) The results of the **6** analyzed samples from your project: **#9081,**
2) A QC report for the above samples,
3) A copy of the chain of custody, and
4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

0906292

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701
Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

RUSH

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 4 DAY

☐ GeoTracker EDF ☐ PDF ☐ Excel ☐ Write On (DW)

Report To: PAT GARRETT Bill To:
Company: ENVIRONOVA LLC
E-Mail: pgarrett@environove.com
Tele: (415) 408-6691 Fax: ( )
Project #: 9081 Project Name:
Project Location: 100 CALIFORNIA STREET
Sampler Signature:

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED ICE	METHOD PRESERVED HCL	METHOD PRESERVED HNO_3	METHOD PRESERVED Other
9081-WGP-7	D3-13	6-9-09								X				
9081-WGP-8	D3-9	"								X				
9081-WGP-9	D3-7	"								X				
9081-CVM-7	D3-13	"								X				
9081-CVM-8	D3-9	"								X				
9081-CVM-9	D3-7	"								X				

Analysis Request

MTBE / BTEX & TPH as Gas (602 / 8021A / 8015)	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other	Other	Other	Comments
							X												Filter Samples for Metals analysis: Yes / No
							X												
							X												
							X												
							X												
							X												

Relinquished By:	Date:	Time:	Received By:
	6/9/09	1539	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° 25.0c
GOOD CONDITION ✓
HEAD SPACE ABSENT
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS ✓
PRESERVED IN LAB

COMMENTS:

	VOAS	O&G	METALS	OTHER
PRESERVATION			pH<2	

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0906292 **ClientCode: EVNN**

☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Pat Garrett
EnviroNova
110 Landing Court, Suite B
Novato, CA 94945-4122
415-883-7575 FAX 415-883-7475

Email: pgarrett@environova.com
cc:
PO:
ProjectNo: #9081

Bill to:
Accounts Payable
EnviroNova
110 Landing Court, Suite B
Novato, CA 94945-4122
accounts@environova.com

Requested TAT: 4 days

Date Received: 06/09/2009
Date Printed: 06/09/2009

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0906292-001	9081-WGP-7	Solid	6/9/2009	☐	A											
0906292-002	9081-WGP-8	Solid	6/9/2009	☐	A											
0906292-003	9081-WGP-9	Solid	6/9/2009	☐	A											
0906292-004	9081-CVM-7	Solid	6/9/2009	☐	A											
0906292-005	9081-CVM-8	Solid	6/9/2009	☐	A											
0906292-006	9081-CVM-9	Solid	6/9/2009	☐	A											

Test Legend:

1	8082A_PCB_Solid	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Melissa Valles

Comments: Due Friday COB

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
"When Quality Counts"

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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **EnviroNova**
Date and Time Received: **6/9/09 3:55:10 PM**
Project Name: **#9081**
Checklist completed and reviewed by: Melissa Valles
WorkOrder N°: **0906292** Matrix Solid
Carrier: Client Drop-In

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☑	No ☐

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 25.8°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☐	No ☑	

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova	Client Project ID: #9081	Date Sampled: 06/09/09
		Date Received: 06/09/09
110 Landing Court, Suite B	Client Contact: Pat Garrett	Date Extracted: 06/09/09
Novato, CA 94945-4122	Client P.O.:	Date Analyzed 06/11/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0906292

Lab ID	0906292-001A	0906292-002A	0906292-003A	0906292-004A	Reporting Limit for DF =1	
Client ID	9081-WGP-7	9081-WGP-8	9081-WGP-9	9081-CVM-7		
Matrix	S	S	S	S		
DF	50	20	20	100	S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<25	ND<10	ND<10	ND<50	0.025	NA
Aroclor1221	ND<25	ND<10	ND<10	ND<50	0.025	NA
Aroclor1232	ND<25	ND<10	ND<10	ND<50	0.025	NA
Aroclor1242	ND<25	ND<10	ND<10	ND<50	0.025	NA
Aroclor1248	ND<25	ND<10	ND<10	ND<50	0.025	NA
Aroclor1254	54	38	18	190	0.025	NA
Aroclor1260	ND<25	ND<10	ND<10	ND<50	0.025	NA
PCBs, total	54	38	18	190	0.025	NA
Surrogate Recoveries (%)						
%SS:	---#	---#	---#	---#		
Comments	h4	h4	h4	h4		

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

EnviroNova	Client Project ID: #9081	Date Sampled: 06/09/09
		Date Received: 06/09/09
110 Landing Court, Suite B	Client Contact: Pat Garrett	Date Extracted: 06/09/09
Novato, CA 94945-4122	Client P.O.:	Date Analyzed 06/11/09

Polychlorinated Biphenyls (PCBs) Aroclors by GC-ECD*

Extraction Method: SW3550C Analytical Method: SW8082 Work Order: 0906292

					Reporting Limit for DF =1	
Lab ID	0906292-005A	0906292-006A				
Client ID	9081-CVM-8	9081-CVM-9				
Matrix	S	S				
DF	100	100			S	W
Compound	**Concentration**				mg/kg	ug/L
Aroclor1016	ND<50	ND<50			0.025	NA
Aroclor1221	ND<50	ND<50			0.025	NA
Aroclor1232	ND<50	ND<50			0.025	NA
Aroclor1242	ND<50	ND<50			0.025	NA
Aroclor1248	ND<50	ND<50			0.025	NA
Aroclor1254	250	270			0.025	NA
Aroclor1260	ND<50	ND<50			0.025	NA
PCBs, total	250	270			0.025	NA
Surrogate Recoveries (%)						
%SS:	---#	---#				
Comments	h4	h4				

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h4) sulfuric acid permanganate (EPA 3665) cleanup

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8082

W.O. Sample Matrix: Solid QC Matrix: Soil BatchID: 43734 WorkOrder 0906292

EPA Method SW8082 **Extraction SW3550C** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Aroclor1260	N/A	0.075	N/A	N/A	N/A	100	103	2.38	N/A	N/A	70 - 130	20
%SS:	N/A	0.050	N/A	N/A	N/A	88	101	13.7	N/A	N/A	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 43734 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0906292-001A	06/09/09	06/09/09	06/11/09 6:57 PM	0906292-002A	06/09/09	06/09/09	06/11/09 7:52 PM
0906292-003A	06/09/09	06/09/09	06/11/09 8:47 PM	0906292-004A	06/09/09	06/09/09	06/11/09 12:58 PM
0906292-005A	06/09/09	06/09/09	06/11/09 4:10 PM	0906292-006A	06/09/09	06/09/09	06/11/09 5:05 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS ELAP Certification 1644

QA/QC Officer

RGA ENVIRONMENTAL
1730 Minor Avenue, Suite 900, Seattle, WA 98101
OFFICE: (206) 281-8858 FAX: (206) 281-8922 email: laboratory@rgaenv.com

Bulk Asbestos Fiber Analysis
(EPA 600/R-93/116)

NVLAP LAB CODE 200613-0

Broadway Real Estate Services LLC
Project Location: 100 California

RGA Batch Number: 09-1431
RGA Project Number: BRES21720
Number of Samples: 28

Report Key				
Client Sample ID RGA Lab ID	Layer ID (if applicable) Layer Description **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
01A 09013841	Black sealant at granite to metal column	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
01B 09013842	Black sealant at granite to metal column	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
01C 09013843	Black sealant at granite to metal column	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
02A 09013844	Gray sealant at granite to aluminum louvres	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
02B 09013845	Gray sealant at granite to aluminum louvres	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
03A 09013846	Black sealant at granite to granite (3)	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
03B 09013847	Black sealant at granite to granite (3)	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
03C 09013848	Black sealant at granite to granite (3)	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
04A 09013849	Black/white sealant on vertical marble column	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
04B 09013850	Black/white sealant on vertical marble column	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
05A 09013851	Gray sealant on granite/window frame	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
06A 09013852	Black sealant at window to metal column	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder

Sampled By: Mike Bishop
Received By: Russell Browne 7/22/2009
Reviewed By: Aruna Turaga 7/22/2009

Analyzed By: Russell Browne 7/22/2009

RGA ENVIRONMENTAL
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Bulk Asbestos Fiber Analysis
(EPA 600/R-93/116)

NVLAP LAB CODE 200613-0

Broadway Real Estate Services LLC
Project Location: 100 California

RGA Batch Number: 09-1431
RGA Project Number: BRES21720
Number of Samples: 28

Report Key				
Client Sample ID RGA Lab ID	Layer ID (if applicable) Layer Description **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
06B 09013853	Black sealant at window to metal column	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
06C 09013854	Black sealant at window to metal column	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
07A 09013855	Gray cementitous mortar on white granite panels	**No Asbestos Detected**		55% Calcite Filler and Binder 30% Sand 15% Mineral Particles
07B 09013856	Gray cementitous mortar on white granite panels	**No Asbestos Detected**		55% Calcite Filler and Binder 30% Sand 15% Mineral Particles
07C 09013857	Gray cementitous mortar on white granite panels	**No Asbestos Detected**		55% Calcite Filler and Binder 30% Sand 15% Mineral Particles
08A 09013858	Light gray sealant on white granite	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
08B 09013859	Light gray sealant on white granite	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
08C 09013860	Light gray sealant on white granite	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
09A 09013861	Black sealant on black metal column	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
09B 09013862	Black sealant on black metal column	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
09C 09013863	Black sealant on black metal column	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder

Sampled By: Mike Bishop
Received By: Russell Browne 7/22/2009
Reviewed By: Aruna Turaga 7/22/2009

Analyzed By: Russell Browne 7/22/2009

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Bulk Asbestos Fiber Analysis
(EPA 600/R-93/116)

NVLAP LAB CODE 200613-0

Broadway Real Estate Services LLC
Project Location: 100 California

RGA Batch Number: 09-1431
RGA Project Number: BRES21720
Number of Samples: 28

Report Key				
Client Sample ID RGA Lab ID	Layer ID (if applicable) Layer Description **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
10A 09013864	Black sealant around black metal panels	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
10B 09013865	Black sealant around black metal panels	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
10C 09013866	Black sealant around black metal panels	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
09D 09013867	Black sealant on black metal column	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
06D 09013868	Black sealant at window to metal column	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder

Sampled By: Mike Bishop
Received By: Russell Browne 7/22/2009
Reviewed By: Aruna Turaga 7/22/2009

Analyzed By: Russell Browne 7/22/2009

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09-1431

ACM BULK SAMPLE DATA SHEET

* PLM Analysis

X Stop Analysis at First Positive PAGE 1 OF 3

___ Analyze All Samples

___ Point Count Analysis (400-point)

Project Name/Address: 100 California PO #

RGA Project #: BRES 21720 Sampled By: Mike B Sampling Date: ~~7/22~~ 7/21/09

Sample(s) Sent To: X RGA ___ EMSL ___ Other: TAT: X Rush ___ 24Hrs ___ 3-5 Days

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)**

***ADDITIONAL REPORT RECIPIENT(S): ***

HM# 01	Material Description: Black sealant @ Granite to metal column
Sample ID	Sample Location & Material Location — Quantity:
01A	14th Fl E side (1) " " "
01B	8th Fl E side (1) Granite Perimeters
01C	10th Fl N side (1)

HM# 02	Material Description: Gray sealant @ granite to alum louvres
Sample ID	Sample Location & Material Location — Quantity:
02A	14th Fl E side (2)
02B	14th Fl N side (2)

HM# 03	Material Description: Black sealant @ granite to granite (3)
Sample ID	Sample Location & Material Location — Quantity:
03A	14th Fl E side (3)
03B	8th Fl E side (3)
03C	10th Fl N side (3)

HM# 04	Material Description: Black/white sealant on vert. marble column
Sample ID	Sample Location & Material Location — Quantity:
04A	14th Fl E side (4-5)
04B	8th Fl E side (4-5)

HM# 05	Material Description: Gray sealant @ granite/window frame
Sample ID	Sample Location & Material Location — Quantity:
05A	12th Fl E side (6) Same as (1)

Relinquished By: Mike B Signature: Date/Time: 7/21/09

Received By: Signature: Date/Time: 7/21/09

Relinquished By: Signature: Date/Time:

Received By: Signature: Date/Time: 7/22/09

RGA ENVIRONMENTAL
__PM - S. Steiner Steff@rgaenv.com fax: 510 899.7051
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__PM-K. Pilgrim ken@rgaenv.com fax: 510.899.7053
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__PM – T. Kattchee tedd@rgaenv.com fax: 510.899.7070
__PM – B. Gils bob@rgaenv.com fax: 510.899.7050

09-1431

ACM BULK SAMPLE DATA SHEET

* PLM Analysis

X Stop Analysis at First Positive

___ Analyze All Samples

___ Point Count Analysis (400-point)

Project Name/Address: 100 California PO #

RGA Project #: BRES21720 Sampled By: Sampling Date:

Sample(s) Sent To: (RGA) ___ EMSL ___ Other: TAT: (Rush) ___ 24Hrs ___ 3-5 Days

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)**

***ADDITIONAL REPORT RECIPIENT(S): ***

HM# 06	Material Description: Black sealant @ window to metal column
Sample ID	Sample Location & Material Location — Quantity:
06A	12th Fl E side (7)
06B	8 Fl E side (7)
06C	10th Fl N side (7)
HM# 07	Material Description: Gry cementitous mortar on white grnte pnls
Sample ID	Sample Location & Material Location — Quantity:
07A	12th Fl E side (8)
07B	10th Fl N side (8)
07C OK	5th Fl N side (8)
HM# 08	Material Description: Light gry sealant on white grnte
Sample ID	Sample Location & Material Location — Quantity:
08A	12th Fl E side (9)
08B	4th Fl E side (9)
08C	10th Fl N side (9)
HM# 09	Material Description: Blk sealant on Blk metal column
Sample ID	Sample Location & Material Location — Quantity:
09A	4th Fl E side (10)
09B	12th Fl E side (10)
09C	14th Fl N side (10)
HM# 10	Material Description: Blk sealant around blk metal pnls
Sample ID	Sample Location & Material Location — Quantity:
10A	10 th Fl N side (11)
10B	5th Fl N side (11)
10C	3rd Fl N side (11)

Relinquished By: Mike B Signature: Date/Time: 7/21/09

Received By: R Pantea Signature: Date/Time: 7/21/09

Relinquished By: Signature: Date/Time:

Received By: William B Browne Signature: Date/Time: 7/22/09

RGA
ENVIRONMENTAL

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fax: 510.899.7050

09-1471

ACM BULK SAMPLE DATA SHEET

* PLM Analysis

X Stop Analysis at First Positive

___ Analyze All Samples

___ Point Count Analysis (400-point)

Project Name/Address: 100 California PO #

RGA Project #: BRES21720 Sampled By: MB Sampling Date:

Sample(s) Sent To: RGA ___ EMSL ___ Other: TAT: Rush ___ 24Hrs ___ 3-5 Days

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)**

***ADDITIONAL REPORT RECIPIENT(S): ***

HM# 09	Material Description:	
Sample ID	Sample Location & Material Location	Quantity:
09D	5th Fl N side (10)	

HM# 06	Material Description:	
Sample ID	Sample Location & Material Location	Quantity:
06D	5th Fl N side (7)	

HM#	Material Description:	
Sample ID	Sample Location & Material Location	Quantity:

HM#	Material Description:	
Sample ID	Sample Location & Material Location	Quantity:

HM#	Material Description:	
Sample ID	Sample Location & Material Location	Quantity:

Relinquished By: Mike B Signature: Date/Time: 7/21/09

Received By: Signature: Date/Time: 7/21/09

Relinquished By: Signature: Date/Time:

Received By: Signature: Date/Time: 7/22/09

RGA ENVIRONMENTAL
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Bulk Asbestos Fiber Analysis
(EPA 600/R-93/116)

NVLAP LAB CODE 200613-0

Broadway Real Estate Services LLC
Project Location: Sealant Replacement
100 California

RGA Batch Number: 09-1466
RGA Project Number: BRES21720
Number of Samples: 14

Report Key				
Client Sample ID RGA Lab ID	Layer ID (if applicable) Layer Description **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
02C 09014149	Gray sealant at granite to aluminum louvres	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
01D 09014150	Black sealant around granite panel perimeters	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
01E 09014151	Black sealant around granite panel perimeters	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
03D 09014152	Black sealant at granite panel to granite panel	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
03E 09014153	Black sealant at granite panel to granite panel	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
04D 09014154	Black/white sealant on marble columns	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
04E 09014155	Black/white sealant on marble columns	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
06E 09014156	Black sealant around windows	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
06F 09014157	Black sealant around windows	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
08D 09014158	Light gray sealant on white granite panels	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
09E 09014159	Black sealant on vertical metal column	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
09F 09014160	Black sealant on vertical metal column	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder

Sampled By: Mike Bishop
Received By: Aruna Turaga 7/28/2009
Reviewed By: Aruna Turaga 7/29/2009

Analyzed By: Russell Browne 7/29/2009

RGA ENVIRONMENTAL
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OFFICE: (206) 281-8858 FAX: (206) 281-8922 email: laboratory@rgaenv.com

Bulk Asbestos Fiber Analysis
(EPA 600/R-93/116)

NVLAP LAB CODE 200613-0

Broadway Real Estate Services LLC
Project Location: Sealant Replacement
100 California

RGA Batch Number: 09-1466
RGA Project Number: BRES21720
Number of Samples: 14

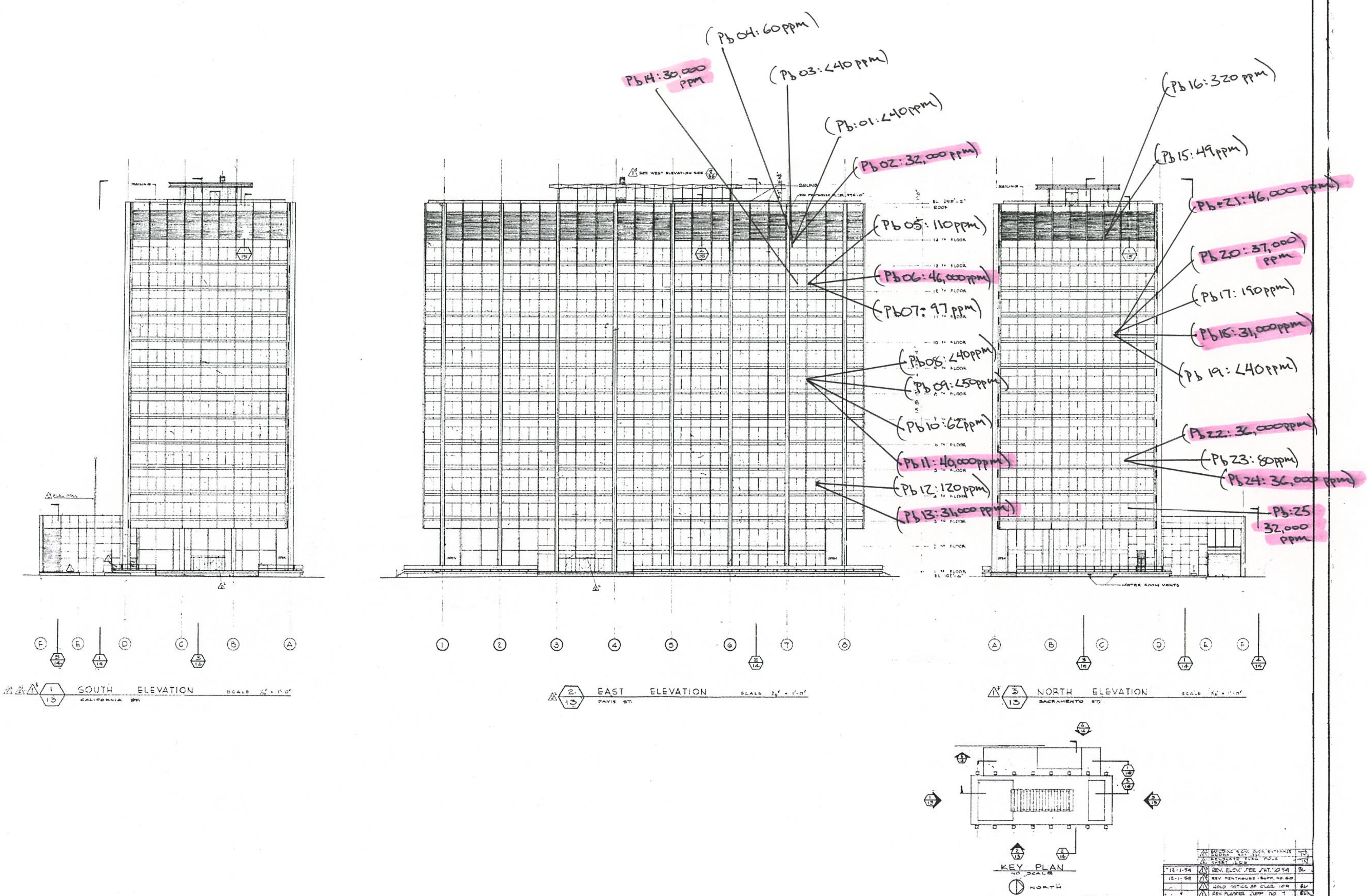
Report Key				
Client Sample ID RGA Lab ID	Layer ID (if applicable) Layer Description **Layer Comments (if applicable)**	**Asbestos Components**	Non-Asbestos Fibrous Components	Non-Fibrous Components
10D 09014161	Black sealant around black metal panels	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder
10E 09014162	Black sealant around black metal panels	**No Asbestos Detected**		90% Resin and Binder 10% Filler and Binder

Sampled By: Mike Bishop
Received By: Aruna Turaga 7/28/2009
Reviewed By: Aruna Turaga 7/29/2009

Willa Russell Browne

Analyzed By: Russell Browne 7/29/2009

RGA Samples: Lead



DATE	NO.	REVISION	BY
12-1-54		REV. ELEV. SEE SHT. 10.54	BL
12-1-54		REV. PENTHOUSE - SUPP. NO. 60	
		HOLD NOTICE OF CLAR. 109	BL
		REV. PLANTER SUPP. NO. 7	

HAYES & LITTLE AND JOHN A. BLUME & ASSOCIATES
STRUCTURAL ENGINEERS
DUDLEY DEANE & ASSOCIATES
MECHANICAL & ELECTRICAL ENGINEERS
SAN FRANCISCO CALIFORNIA

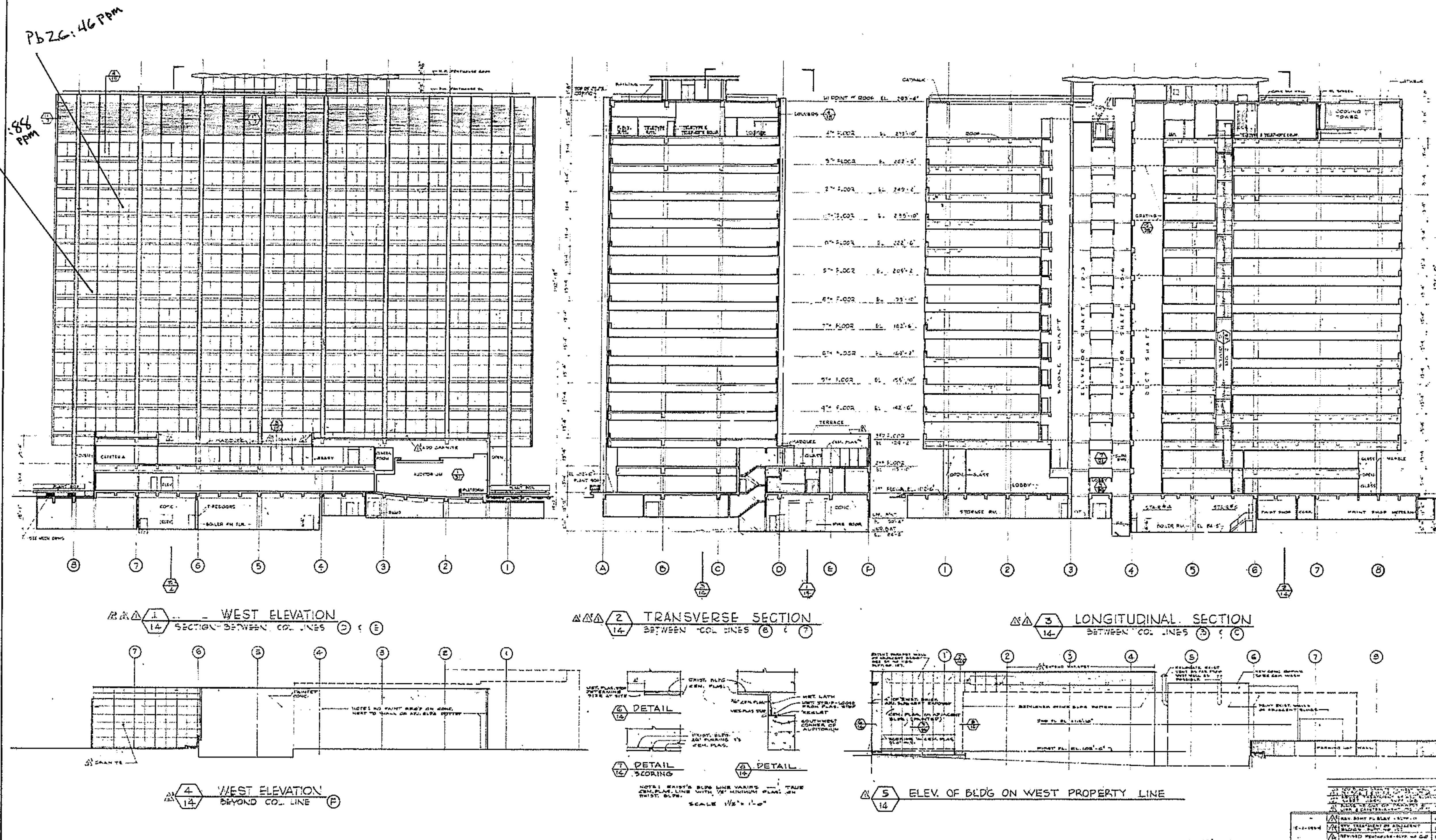
BETHLEHEM PACIFIC COAST STEEL CORPORATION
OFFICE BUILDING
SAN FRANCISCO CALIFORNIA

WELTON BECKET AND ASSOCIATES
ARCHITECTS AND ENGINEERS
153 MAIDEN LANE
SAN FRANCISCO CALIFORNIA

EXTERIOR ELEVATIONS

DRAWN: F
CHECKED: R.B.
PRINTED: 12-4-54
DATE: JUNE 16, 1958
JOB NO. 4144
SHEET NO. 13-2

RGA Samples: Lead



		12-4-1959	RGA. RENT FL. ELEV.
			REV. TREATMENT OF ADJACENT BLDGS.
			REVISED PENTHOUSE
DATE	NO.	REVISION	BY

HAYES & LITTLE AND JOHN A. BLUME & ASSOCIATES
STRUCTURAL ENGINEERS
DUDLEY DEANE & ASSOCIATES
MECHANICAL & ELECTRICAL ENGINEERS
SAN FRANCISCO CALIFORNIA

BETHLEHEM PACIFIC COAST STEEL CORPORATION
OFFICE BUILDING
SAN FRANCISCO CALIFORNIA

WELTON BECKET AND ASSOCIATES
ARCHITECTS AND ENGINEERS
153 MAIDEN LANE
SAN FRANCISCO CALIFORNIA

BUILDING SECTIONS
& WEST ELEVATION

DRAWN: ZGA
DATE: JUNE 16 1958
TRACED:
JOB NO. 4144
CHECKED: E.B.
SHEET NO.
PRINTED: 12-4-1959

14-2

LA Testing
10772 Noel St., Los Alamitos, CA 90720
Phone: (714) 828-4999 Fax: (714) 828-4944 Email: losalamitoslab@latesting.com

Attn: **B. Gils**
RGA Environmental, Inc.
1466 66th Street
Emeryville, CA 94608

Fax: Phone: (510) 899-7000
Project: **100 California BRES 21720**

Customer ID: 32RGAE72
Customer PO:
Received: 07/22/09 9:20 AM
LA Testing Order: 330908095

LA Testing Proj:

Total Threshold Limit Concentration

Lab ID: *Analyzed*	*RDL*	*Lead Concentration*	*Notes*
0001	40 ppm	<40 ppm	14th Floor East Side
Client Sample Pb-01			*Collected:* 7/21/2009
0002	40 ppm	32000 ppm	14th Floor East Side
Client Sample Pb-02			*Collected:* 7/21/2009
0003	40 ppm	<40 ppm	14th Floor East Side
Client Sample Pb-03			*Collected:* 7/21/2009
0004	40 ppm	60 ppm	14th Floor East Side
Client Sample Pb-04			*Collected:* 7/21/2009
0005	40 ppm	110 ppm	12th Floor East Side
Client Sample Pb-05			*Collected:* 7/21/2009
0006	40 ppm	46000 ppm	12th Floor East Side
Client Sample Pb-06			*Collected:* 7/21/2009
0007	40 ppm	97 ppm	12th Floor East Side
Client Sample Pb-07			*Collected:* 7/21/2009
0008	40 ppm	<40 ppm	8th Floor East Side
Client Sample Pb-08			*Collected:* 7/21/2009
0009	40 ppm	<50 ppm	8th Floor East Side
Client Sample Pb-09			*Collected:* 7/21/2009
0010	40 ppm	62 ppm	8th Floor East Side
Client Sample Pb-10			*Collected:* 7/21/2009
0011	40 ppm	40000 ppm	8th Floor East Side
Client Sample Pb-11			*Collected:* 7/21/2009

Michael Chapman, Laboratory Manager
or other approved signatory

This report relates only to those items tested. Sample received in acceptable condition unless otherwise noted.

LA Testing
10772 Noel St., Los Alamitos, CA 90720
Phone: (714) 828-4999 Fax: (714) 828-4944 Email: losalamitoslab@latesting.com

Attn: **B. Gils**
RGA Environmental, Inc.
1466 66th Street
Emeryville, CA 94608

Fax: Phone: (510) 899-7000
Project: **100 California BRES 21720**

Customer ID: 32RGAE72
Customer PO:
Received: 07/22/09 9:20 AM
LA Testing Order: 330908095

LA Testing Proj:

Total Threshold Limit Concentration

Lab ID: *Analyzed*	*RDL*	*Lead Concentration*	*Notes*
0012	40 ppm	120 ppm	4th Floor East Side
Client Sample Pb-12			*Collected:* 7/21/2009
0013	40 ppm	31000 ppm	4th Floor East Side
Client Sample Pb-13			*Collected:* 7/21/2009
0014	40 ppm	30000 ppm	12th Floor East Side
Client Sample Pb-14			*Collected:* 7/21/2009
0015	40 ppm	49 ppm	14th Floor North Side
Client Sample Pb-15			*Collected:* 7/21/2009
0016	40 ppm	320 ppm	14th Floor North Side
Client Sample Pb-16			*Collected:* 7/21/2009
0017	40 ppm	190 ppm	10th Floor North Side
Client Sample Pb-17			*Collected:* 7/21/2009
0018	40 ppm	31000 ppm	10th Floor North Side
Client Sample Pb-18			*Collected:* 7/21/2009
0019	ppb	<40 ppb	10th Floor North Side
Client Sample Pb-19			*Collected:* 7/21/2009
0020	40 ppm	37000 ppm	10th Floor North Side
Client Sample Pb-20			*Collected:* 7/21/2009
0021	40 ppm	46000 ppm	10th Floor North Side
Client Sample Pb-21			*Collected:* 7/21/2009
0022	40 ppm	36000 ppm	5th Floor North Side
Client Sample Pb-22			*Collected:* 7/21/2009

Michael Chapman, Laboratory Manager
or other approved signatory

This report relates only to those items tested. Sample received in acceptable condition unless otherwise noted.

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Emeryville, CA 94608

Fax: Phone: (510) 899-7000
Project: **100 California BRES 21720**

Customer ID: 32RGAE72
Customer PO:
Received: 07/22/09 9:20 AM
LA Testing Order: 330908095

LA Testing Proj:

Total Threshold Limit Concentration

Lab ID: *Analyzed*	*RDL*	*Lead Concentration*	*Notes*
0023	40 ppm	80 ppm	5th Floor North Side
Client Sample Pb-23			*Collected:* 7/21/2009
0024	40 ppm	36000 ppm	5th Floor North Side
Client Sample Pb-24			*Collected:* 7/21/2009
0025	40 ppm	32000 ppm	3rd Floor North Side
Client Sample Pb-25			*Collected:* 7/21/2009

Different RL due to varies samples sizes.

Michael Chapman, Laboratory Manager
or other approved signatory

This report relates only to those items tested. Sample received in acceptable condition unless otherwise noted.

330908095

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__PM – B. Weisbrod brent.weisbrod@rgaenv.com fax: 510.899.7062

__PM – T. Kattchee tedd@rgaenv.com fax: 510.899.7070

X PM – B. Gils bob@rgaenv.com fax: 510.899.7050

LEAD PAINT SAMPLE DATA SHEET

* Lead Analysis
- Flame AA (EPA 7420)

Project Name/Address: 100 California PO #:

RGA Project #: BRES 21720 Sampled By: Mike B Sampling Date: 7/21/09

Sample(s) Sent To: ___ EMSL X Other: LA Test TAT: ___ Rush X 24Hrs ___ 3-5 Days

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)**

***ADDITIONAL REPORT RECIPIENT(S): ***

Sample ID	Paint Description and Sample Location	Peeling Quantity
Pb-01	~~Paint~~ Color: Black Substrate: Granite/Metal (1) Composite Sample: Y / N Sample Location: 14th Fl. East side	
Pb-02	Paint Color: Gray Substrate: Granite/ Alumn (2) Composite Sample: Y / N Sample Location: 14th Fl. E side	
Pb-03	Paint Color: Black Substrate: Granite/ Granite (3) Composite Sample: Y / N Sample Location: 14th Fl E side	
Pb-04	Paint Color: Black/ white Substrate: Granite Col. (4-5) Composite Sample: Y / N Sample Location: 14th Fl E side	
Pb-05	Paint Color: Gray Substrate: Granite/ Wood Frame Composite Sample: Y / N Sample Location: 12th Fl E side (6)	
Pb-06	Paint Color: Black Substrate: Window/ metal Composite Sample: Y / N Sample Location: 12th Fl E side (7)	
Pb-07	Paint Color: Light Gray Substrate: Marble/ Metal Composite Sample: Y / N Sample Location: 12th Fl E side (8)(9)	

Relinquished By: Mike B Signature: Date/Time: 7/21/09

Received By: Louise Sen Signature: Sen (FE) Date/Time: 7-22-09 9:40a

Relinquished By: Signature: Date/Time:

Received By: Signature: Date/Time:

330908095

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LEAD PAINT SAMPLE DATA SHEET

* Lead Analysis
  - Flame AA (EPA 7420)

Project Name/Address: 100 California PO #: ______

RGA Project #: BRES21720 Sampled By: MB Sampling Date: 7-21-09

Sample(s) Sent To: __EMSL ✓ Other: LA Test TAT: __Rush (24Hrs) __3-5 Days

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)*

ADDITIONAL REPORT RECIPIENT(S):______

Sample ID	Paint Description and Sample Location	Peeling Quantity
Pb-08	Paint Color: Black Substrate: (1) Composite Sample: Y / N Sample Location: 8th Fl E side	
Pb-09	Paint Color: Black Substrate: (3) Composite Sample: Y / N Sample Location: 8th Fl E side	
Pb-10	Paint Color: Blk/Wht Substrate: (10) Composite Sample: Y / N Sample Location: 8th Fl E side	
Pb-11	Paint Color: Blk Substrate: (7) Composite Sample: Y / N Sample Location: 8th Fl E side	
Pb-12	Paint Color: Light Gry Substrate: (9) Composite Sample: Y / N Sample Location: 4th Fl E side	
Pb-13	Paint Color: Blk Substrate: (10) Composite Sample: Y / N Sample Location: 4th Fl E side	
Pb-14	Paint Color: Blk Substrate: (10) Composite Sample: Y / N Sample Location: 12th Fl E side	

Relinquished By: Mike B Signature: [signature] Date/Time: 7/21/09

Received By: R Paulee Signature: RP Date/Time: 7/21/09

Relinquished By: ______ Signature: ______ Date/Time: ______

Received By: Jim Signature: [signature] Date/Time: 7-22-09 9:20am

330908095

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LEAD PAINT SAMPLE DATA SHEET

* Lead Analysis
- Flame AA (EPA 7420)

Project Name/Address: 100 California Street PO #:

RGA Project #: BRES21720 Sampled By: MB Sampling Date: 7-21-09

Sample(s) Sent To: ___ EMSL ✓ Other: LA Testing TAT: ___ Rush (24Hrs) ___ 3-5 Days

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM) ***

***ADDITIONAL REPORT RECIPIENT(S): ***

Sample ID	Paint Description and Sample Location	Peeling Quantity
Pb-15	Paint Color: Gray Substrate: (2) Composite Sample: Y / N Sample Location: 14th Fl N side	
Pb-16	Paint Color: Black Substrate: (10) Composite Sample: Y / N Sample Location: 14th Fl N side	
Pb-17	Paint Color: Light Gy Substrate: (9) Composite Sample: Y / N Sample Location: 10th Fl N side	
Pb-18	Paint Color: Dk Gray Substrate: (1) Composite Sample: Y / N Sample Location: 10th Fl N side	
Pb-19	Paint Color: Gray Substrate: (3) Composite Sample: Y / N Sample Location: 10th Fl N side	
Pb-20	Paint Color: Gray Blk Substrate: (7) Composite Sample: Y / N Sample Location: 10th Fl N side	
Pb-21	Paint Color: Blk Substrate: (Wd) (11) Composite Sample: Y / N Sample Location: 10th Fl N side	

Relinquished By: Mike B Signature: Date/Time: 7/21/09

Received By: R Pantoja Signature: RP Date/Time: 7/21/09

Relinquished By: Signature: Date/Time:

Received By: Laise Sa Signature: Date/Time: 7-22-09 9a

330908095

RGA 330908095
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__PM – B. Gils bob@rgaenv.com fax: 510.899.7066

LEAD PAINT SAMPLE DATA SHEET

* Lead Analysis
- Flame AA (EPA 7420)

Project Name/Address: 100 California PO #

RGA Project #: BRES21720 Sampled By: MB Sampling Date: 7/21/09

Sample(s) Sent To: __ EMSL ✓ Other: LA Testing TAT: __ Rush (24Hrs) __ 3-5 Days

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM) ***

***ADDITIONAL REPORT RECIPIENT(S): ***

Sample ID	Paint Description and Sample Location	Peeling Quantity
Pb-22	Paint Color: Blk Substrate: (11) Composite Sample: Y / N Sample Location: 5th Fl N side	
Pb-23	Paint Color: Lt. Gy Substrate: ~~(1)~~ (9) Composite Sample: Y / N Sample Location: 5th Fl N side	
Pb-24	Paint Color: Blk Substrate: (7) Composite Sample: Y / N Sample Location: 5th Fl N side	
Pb-25	Paint Color: Blk Substrate: (11) Composite Sample: Y / N Sample Location: 3rd Fl N side	
	Paint Color: Substrate: Composite Sample: Y / N Sample Location:	
	Paint Color: Substrate: Composite Sample: Y / N Sample Location:	
	Paint Color: Substrate: Composite Sample: Y / N Sample Location:	

Relinquished By: Mike B Signature: Date/Time: 7/21/09

Received By: R Painter Signature: RP Date/Time: 7/21/09

Relinquished By: Signature: Date/Time:

Received By: Signature: Date/Time:

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LEAD PAINT SAMPLE DATA SHEET

* Lead Analysis
- Flame AA (EPA 7420)

PAGE 1 OF 1

Project Name/Address: Sealant Replacement, 100 California PO #

RGA Project #: BRES 2.1720 Sampled By: Mike B Sampling Date: 7/27/09

Sample(s) Sent To: ___ EMSL X Other: LAT TAT: ___ Rush X 24Hrs ___ 3-5 Days

FAX OR E-MAIL REPORT TO: *SEE ABOVE PROJECT MANAGER (PM)**

***ADDITIONAL REPORT RECIPIENT(S): ***

Sample ID	Paint Description and Sample Location	Peeling Quantity
Pb-26	~~Paint~~ Color: Lt. Gray Substrate: Wht Granite Composite Sample: Y / N Sample Location: 11th Fl. W side (9)	
Pb-27	Paint Color: Blk/ Wht. Substrate: Marble columns Composite Sample: Y / N Sample Location: 8th Fl. W. side (4-5)	
	Paint Color: Substrate: Composite Sample: Y / N Sample Location:	
	Paint Color: Substrate: Composite Sample: Y / N Sample Location:	
	Paint Color: Substrate: Composite Sample: Y / N Sample Location:	
	Paint Color: Substrate: Composite Sample: Y / N Sample Location:	
	Paint Color: Substrate: Composite Sample: Y / N Sample Location:	

Relinquished By: Mike B **Signature:** **Date/Time:** 7/27/09

Received By: **Signature:** **Date/Time:**

Relinquished By: **Signature:** **Date/Time:**

Received By: **Signature:** **Date/Time:**

RGA ENVIRONMENTAL, INC.

Hazardous Materials Work Plan

Lead and PCBs

Broadway Real Estate Services

7/27/2009
Revised 10.19.09

1.2 INTENT

A. This project involves the removal of flexible water proofing materials hereafter referred to as caulking from between sections of exterior granite, marble sheeting and associated metal building assemblies. During all work, the contractor shall provide monitoring and worker protective equipment in accordance with the California Occupational Safety and Health Administration (Cal-OSHA) and as required by this work plan. Where there is conflict, the most stringent requirement shall apply.

1. Assume that all exterior caulking contains both polychlorinated biphenyls (PCB) and lead. PCB concentrations range to 38000 ppm for stone finishes and 186,000 ppm for metal to metal finishes. Lead concentrations range to 46,000 parts per million (see the attached analytical data).

B. The primary objective of this work plan is to ensure the well being of workers, the general public, observers, field personnel and the community surrounding the subject property. Accordingly, all personnel assigned to this project shall read this work plan (WP) and sign the Agreements and Acknowledgment Statement (Appendix A) to certify that they have read, understood and agreed to abide by this WP and its provisions, including the "Urban Water Proofing Injury and Illness Prevention Program" (Appendix C). Any modification to this work plan will be via amendment see Appendix B.

1. Information contained in the WP will be presented to all personnel and visitors at a pre-entry safety briefing. Additional safety information which becomes pertinent over the course of the project will be conveyed to personnel through "tool-box safety meetings" and, if necessary an addenda to the WP. Safety and exposure issues will be addressed immediately and discussed with involved personnel on a one-to-one basis as appropriate.

C. Lead and PCB wastes are regulated. Perform appropriate waste characterization sampling as required by this work plan, by the regulations, and the selected landfill(s). All testing shall be done in the presence of the Owner's Environmental Consultant. Chain-of-custody forms shall be provided to the Owner and the Owner's Consultant within one (1) working day following sample delivery to the laboratory.

1. If additional hazardous materials are identified the Contractor shall notify the consultant for testing.

2. Hazardous materials removed shall be disposed of in an approved manner complying with all applicable federal, state, and local regulations. Appropriate waste manifests shall be furnished to the Owner.

D. Perform all work specified herein with competent persons trained, knowledgeable and qualified in state-of-the-art techniques relating to hazardous materials handling, and the subsequent cleaning of areas. Work shall be completed under the on-site supervision of a Competent Person. All workers shall have current medical exams for the use of respiratory protection, current fit test of appropriate respirators and awareness training appropriate for the exposure hazards.

E. During removal activities, the Contractor shall protect against contamination of soil, water, plant life, and adjacent building areas, and shall ensure that there is no airborne release of hazardous materials and dusts. The Owner may collect air, wipe and direct reading air samples in the building and in adjacent areas to evaluate the Contractor's performance. Evidence of settled dust or airborne levels of contaminants above background will require the implementation of additional controls.

F. Exterior work shall be completed within swing stage enclosures. Gross removal of caulk shall be completed using hand tools. Final surface preparation will be with shrouded grinders exhausted with HEPA vacuums unless otherwise specified herein. As appropriate the building interiors will be

competent person is an individual who, by way of training and/or experience, is knowledgeable of applicable standards, is capable of identifying workplace hazards relating to the specific operation, is designated by the employer, and has authority to take appropriate actions (see 1926.32). Some standards add additional specific requirements which must be met by the competent person (i.e. lead & asbestos).

Critical Barrier: A unit of temporary construction which provides the only separation between an asbestos work area and an adjacent potential occupied space. This may include the decontamination unit, perimeter walls, ceilings, penetrations and any temporary critical barriers between the work area and the uncontaminated environment.

Decontamination Area: Area which is constructed to provide the means for workers to store clothing, equipment and other articles, and to properly remove PCB's and lead contamination upon concluding work activities that result in exposure to these hazardous materials.

DHS: State Department of Health Services

DOP: Dioctylphthalate, the challenge aerosol used to perform on-site leak testing of HEPA filtration equipment.

DOSH: Division of Occupational Safety & Health (Also see Cal-OSHA)

Disposal Bag: Minimum six (6) mil thick leak-tight plastic bags used for transporting PCB's waste from a work area to disposal or shipping container. Each disposal bag must be labeled according to 5194 (HAZCOM) and 40 CFR 761.

Hazardous waste disposal bags must be labeled with generator's name, address, and site location and generator number.

Enclosure: refers to the regulated construction area to prevent the release of contaminants into the surrounding area.

Environmental Consultant: Certified Industrial Hygienist (CIH), Certified PCB's Consultant (CAC), and/or Certified Site Surveillance technician retained by the Owner.

EPA: Environmental Protection Agency.

HEPA: High Efficiency Particulate Air filter capable of filtering out airborne particulate 0.3 microns or greater in diameter at 99.97 percent efficiency.

Lead: Toxic metallic element of atomic number 82, or any other materials, substances or compounds that may contain lead. Note for metal painted surfaces lead is often found in combination with chromates. For the purposes of this work plan, lead also refers to lead-chromate paints.

Lead Hazardous Waste: Paint, sludge, debris or cleaning materials are to be treated as a hazardous waste if laboratory results indicate a lead (Pb) concentration of 5 milligrams per liter (mg/l) or greater using the EPA approved Toxicity Characteristic Leaching Procedure (TCLP) test. The waste will also be classified as hazardous waste if the Total Threshold Limit Concentration (TTLC) of measured lead is greater than 350 mg/kg or if the Soluble Threshold Limit Concentration (STLC) of measured lead is greater than or equal to 5 mg/l.

NESHAP: National Emission Standard for Hazardous Air Pollutants - EPA Regulation 40 CFR Subpart M, Part 61.

1. Personal protective equipment;
2. Site safety and health hazards;
3. Materials release incidents and spill cleanup.
4. Control of water leakage or discharge within and/or from the work area;
5. Caulk handling procedures;
6. Contractor's internal administrative and inspection procedures;
7. Protocol for responding to complaints or questions from interested parties;
8. MSDS for all materials to be used on site
9. 24-Hour emergency telephone numbers for Company Officers with authority to respond to emergencies.

D. Competent Person _____ (as defined by Title 8 CCR and CFR): Demonstrate education and specialized training with successful completion of examination of an EPA approved lead DHS accredited training courses.

E. Workers:

1. Demonstrate education and specialized training with successful completion of applicable EPA DHS and or OSHA accredited training courses,
2. Submit most current certificates (less than 11 months) signed by each employee and trainer that the employee has received proper training in the handling of materials that contain PCBs, lead and silica. Certificate information must include documentation showing that the worker understands the following; health implications and risks involved (including the illnesses possible from exposure to PCBs and lead), the use and limits of the respiratory equipment to be used, and the results of monitoring of airborne quantities of PCB's and lead concerning health and respiratory equipment.
3. Proof of Respirator Fit Testing: Provide proof of respirator fit testing. Fit testing records must be less than eleven (11) months old and document testing on the type of respiratory protective equipment used for this project. The Competent Person must sign fit testing records.
4. Foreman Training: Submit evidence that the foreman to be used on the job fulfills the qualifications detailed in this work plan and has experience in similar jobs.
5. Medical Examinations: Submit evidence signed by a physician that each employee used on the job has received an appropriate medical examination as detailed in 1532.1. The submitted document must be less than eleven months old.

F. Certificates of Compliance: Submit manufacturer's certification that vacuums, ventilation equipment, and other equipment conform to ANSI Z9.2.

G. Hazardous Waste:

1. Hazardous waste must be tested and categorized for purposes of disposal. The Contractor shall

C. The designated site representative of the Owner's Consultant is authorized by the Owner to have free access to all hazardous materials work areas, to assist in interpretation of procedures, and to advise on all provisions of the Contract Documents pertaining to the control of hazardous materials.

D. The Owner's Consultant will advise the Owner to stop the Contractor's work if, in the course of performing monitoring duties, the Consultant observes an instance of substantial non-conformance with the Contract Documents and/or situations presenting health hazards to workers. Work shall not resume until the corrective measures have been enforced. Instances of substantial non-conformance shall include, but not be limited to, the following:

1. Activities or misconduct imperiling worker's safety; and

2. Breaches in containment resulting in potential release of PCB's, lead or other visible dust to non-work areas.

E. If appropriate conditions are not made after two (2) warnings, or if an immediate threat exists that PCB's or lead dust, could be released outside the work area, all removal work will be stopped. The decision to stop work shall be made jointly by the Owner's Consultant and the Owner.

F. During gross removal with razor knives, use disposable coveralls and impervious gloves. During mechanical grinding to create bondable surfaces, additional respirable exposure hazards are created (i.e. PCB, lead and silica); therefore in addition to disposable coveralls use full face respiratory protective equipment.

1. All workers within ten (10) feet of any grinding process shall use PPE including full face respiratory protection regardless of personal exposure monitoring data. Workers at a distance greater than 10' may down grade respiratory protection based upon exposure monitoring data.

G. Airborne or surface concentrations of PCB's and / or Lead outside the work area shall not exceed background levels as measured prior to the initiation of the work.

H. The Owner's Consultant may perform air sampling inside and outside the hazardous materials work area during all phases of the work. The Contractor shall cooperate fully with the Consultant and ensure the cooperation of his workers during collection of air samples and work area inspections.

I. The Environmental Consultant's role in advising the Owner regarding environmental health matters does not relieve the Contractor's obligation to comply with all applicable health and safety regulations promulgated by the federal, state, or local governments. Air monitoring results generated by the Owner's Consultant shall not be used by the Contractor to represent compliance with regulatory agency requirements for monitoring of workers exposure to airborne PCB's, nor shall any other activity on the part of the Owner's Consultant represent the Contractor's compliance with applicable health and safety regulations.

PART 2 - PRODUCTS

2.1 2.1 SIGNS AND LABELS:

A. Provide labeling in accordance with U.S. EPA requirements. Provide the required signs, labels, warnings, or posted instructions for containers used to transport hazardous material to the landfill.

B. Location of Caution Signs and Labels: Provide bilingual caution signs at all approaches to work areas in languages used by the Contractor's employees. Locate signs at such a distance that personnel may read the sign and take the necessary protective steps required before entering the area. Provide

3.2 AREA ISOLATION - EXTERIOR

A. Containment is not required for the exterior, removal work, however an entry and exit area(s) to the stage lift (i.e. roof or other area) and worker decontamination area(s) is required.

   a. Polyethylene drop sheets will be required within the regulated work areas. The drop cloths shall be weighted at all edges and will be required at each location where work is occurring.

   b. At minimum following each day of work Contractor shall clean the regulated area and as needed replaced the drop sheet to control contamination.

B. As required, establish designated limits for the hazardous materials work (regulated area) with continuous barriers. Use barrier tape (3-inch) and provide signs around the perimeter of the work area according to EPA, OSHA, and Cal-OSHA.

C. The Owner's Consultant will inspect and approve all regulated area setups and critical barriers before any removal is undertaken. If a containment area is breached (failure of polyethylene seals, visible dust emission, counts or direct reading measurements above background level, etc.), the Contractor shall take immediate action to control the breach and clean the area to the satisfaction of the Environmental Consultant. Clearance for any contaminated areas will be determined by the Owner's Consultant and may include air sampling. The Contractor shall be responsible for all costs associated with the clean-up and testing (including costs associated with the Environmental Consultant) resulting from containment breaches.

D. A worker decontamination area must be placed in the vicinity of the containment. The contractor must supply the workers with a minimum of a wash bucket and change out area to facilitate decontamination.

E. At minimum install drop sheets within the swing stage, storage area and decontamination area. Conducted work in such a manner that it minimizes the potential dissemination of particulate beyond the boundaries of the drop sheets.

   1. A chip chaser shall continuously patrol the work area and surrounding ground level building area to collect any fugitive particulate emissions.

F. No exterior work shall be conducted on days where wind causes or contributes to the release of particulate from a swing stage.

G. The Owner's Consultant will inspect and approve all regulated areas before any work is undertaken. If an enclosure area is breached (i.e. visible particulate accumulation outside of the drop cloths area, visible dust emission, direct reading or particulate measurements and/or area samples above background level, etc.), the Contractor shall take immediate action to control the breach and clean the area to the satisfaction of the Environmental Consultant.

H. Clearance for any contaminated areas will be determined by the Owner's Consultant and may include lead dust clearance testing. The Contractor shall be responsible for all costs associated with the clean-up and testing (including costs associated with the Environmental Consultant) resulting from containment breaches.

3.3 PERSONNEL PROTECTION

A. Informed Workers:

airborne lead concentration outside the work area exceeds baseline, then the removal must stop. Contractor must take appropriate actions to reduce the airborne lead concentration within the acceptable limits.

B. The building caulk contains lead and PCBs. All removal work must be performed in accordance with DOSH's Lead in Construction Standard, Title 8 CCR 1532.1.

C. Until an exposure assessment has been performed, Contractor shall treat all employees as if they were exposed to lead above the Permissible Exposure Level (PEL) and shall provide the following:

1. Appropriate respiratory protection to each employee;

2. Appropriate personal protective clothing and equipment;

3. Change areas and hand-washing facilities;

4. Biological monitoring for each employee consisting of sampling and analysis for lead and zinc protoporphyrin levels.

5. All lead / PCB debris shall be immediately bagged following removal.

6. At the initiation of work collect representative personal samples for lead, PCBs and silica dust. Collect samples for each job classification. Thereafter collect representative personal samples for each job classification monthly.

D. Collect representative personal skin wipe sampling for PCBs. Samples must be representative of each job categorization. The purpose of skin wipe testing is to document the effectiveness of PPE measures.

E. The Contractor shall transport lead / PCB waste bags to the metal waste debris containers at designated hours approved by the Owner.

F. The Contractor is responsible for proper waste stream categorization, manifesting and disposal of lead / PCB waste as required by USEPA and applicable state and local regulations. The Owner, at its option may collect duplicate waste stream samples to verify the statistical methods used by the Contractor. In the event of conflict, the Owner's results will prevail. The Contractor at no additional expense to the Owner will appropriately dispose of the waste.

G. The Contractor shall collect all waste stream samples in the presence of the Owner's Consultant and shall supply the Owner's Consultant with a copy of the chain-of-custody within one (1) day of receipt by the laboratory.

H. Lead / PCB containing debris and contaminated water shall be cleaned from the work area at the end of each work shift. As appropriate the Contractor shall clean the work area using wet methods, HEPA vacuuming equipment and/or hand pickup as appropriate.

3.5 AIR MONITORING - PCB'S & LEAD:

A. The purpose of the air monitoring conducted by the Owner will be to detect possible release of dusts (PCB's or lead) emanating from the work areas.

B. The Owner may provide area monitoring as described in this work plan. In addition to air monitoring within the work and adjacent areas, the Owner may collect wipe samples to determine lead / PCB

c. All testing shall be done in the presence of the Owner's Environmental Consultant. Chain-of-custody forms shall be provided to the Owner and the Owner's Consultant within one (1) day following sample delivery to the laboratory.

3. Filter and test all wastewater to the technically feasible limit, but not more than five (5) microns before disposal. Comply with all current local, state and federal codes relating to waste water release.

4. Lead / PCB's-containing waste that is properly labeled and double-bagged may be temporarily stored in areas approved by the Owner. Areas must be made secure before storing the waste. Waste is not to remain in temporary storage area for longer than four (4) days before final load-out of materials.

5. All lead / PCB's waste shall be double-wrapped prior to transport from the site.

6. All vehicles used to transport hazardous waste must be registered with the Department of Toxic Substance Control and display the proper registration and expiration stickers.

7. Contractor shall provide at minimum one (1) day advance notification to the Owner when signatures are required on manifest(s). The Contractor shall ensure that the Hazardous Waste Manifest is correctly filled out. The Contractor shall give the appropriate copies to the Owner and shall also instruct the Owner in writing that they must send the appropriate copy to the Department of Toxic Substance Control.

8. If a debris box is used, the Contractor shall make all necessary arrangement with the Owner including obtaining all appropriate permits.

9. Contractor is responsible for all coordination with the waste disposal site and with the waste hauling company.

10. Debris box for hazardous waste shall be fully lined with a double layer of polyethylene sheeting and must be locked at all times when unattended.

11. Debris box shall be constructed with minimum 20-gauge steel with no windows or openings other than the door. The door of the container shall have a secure cover on the locking device with access to the lock only at the key-hole. Once the debris box is filled and the manifest is signed, Contractor must transport the debris box off the job site.

12. Disposal shall be in a landfill that meets EPA requirements. Do not throw bags into landfills in a way that may cause the bags to burst open. If bags cannot be taken out of the drums undamaged, then include the disposal of the drums with the bags. Ensure that bags remain intact during this process.

END OF SECTION

Issued for Bid Specifications Building Envelope Repairs

100 California Street
San Francisco, CA

4 February 2009

SIMPSON GUMPERTZ & HEGER

Engineering of Structures
and Building Enclosures

PREPARED FOR:

Broadway Real Estate Services
100 California Street, Suite 610
San Francisco, CA

PREPARED BY:

Simpson Gumpertz & Heger Inc.
The Landmark @ One Market
Suite 600
San Francisco, California
Tel: 415.495.3700
Fax: 415.495.3550

Section 00003

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Division 16 – Electrical (Not Used)

END OF SECTION

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LIST OF DRAWINGS

Drawing Number	Title
A000	Cover Sheet
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A801	Details
A802	Details
A803	Details
A804	Details

END OF SECTION

Section 00020

INVITATION TO BID

Broadway Real Estate Services will receive sealed Bid Proposals in the Office of Chaudel Baker, Property Manager, Broadway Real Estate Services, 100 California Street, Suite 610, San Francisco, California, 94111, for furnishing all labor and materials for this contract. Bids will be received in Ms. Baker's Office until 2:00 P.M. on 6 March 2009 in accordance with the contract documents.

A mandatory jobsite inspection is scheduled for 10:00 a.m. on 17 February 2009. Interested bidders should assemble at the building entrance. Contract documents may be obtained at the walkthrough or can be obtained from Kristina Sigmund at Simpson Gumpertz & Heger Inc. (SGH), telephone (415) 343-3112. Please contact Ms. Sigmund with specific job questions and for directions.

All Bids will be opened privately. No Bid may be withdrawn for a period of 90 days after the opening of Bids without the approval and written consent of the Owner. Bidders may contact the Project Consultant three days following the bid opening for information / status concerning the base bids. The Owner reserves the right to accept or reject any and all bids and to waive any informalities in the Bidding. Bidding shall be done in accordance with the laws of the State of California. It is the bidder's responsibility to insure their bid is received by Ms. Baker prior to the bid submittal deadline; the Owner assumes no responsibility for a bid delivered late by the U.S. Postal Service or by any other means of delivery.

Additional bid requirements include Nondiscrimination in employment and Fair Employment Practices. Contractor must also submit a Certificate of Insurance meeting the Owners requirements prior to the issuance of their Contract.

END OF SECTION

Section 00400

BID FORM

Date:

Bid For: Building Envelope Repairs
100 California Street
San Francisco, CA 94111

To: Ms. Chaudel Baker
Property Manager
Broadway Real Estate Services
100 California Street, Suite 610
San Francisco, CA 94111

The undersigned proposes to furnish all labor and materials required for the Building Envelope Repairs at 100 California Street, San Francisco, California, in accordance with the Project Manual for the contract price specified below, subject to additions and deductions according to the terms of the Specifications and including the following Addenda:

Addendum No._____ Date_____

Addendum No._____ Date_____

Addendum No._____ Date_____

SUBCONTRACTORS:

If awarded the General Contract, the Bidder intends to award the following subcontracts:

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

1.1 BASE BID

The construction and completion of all work required to accomplish and complete the Project as shown and noted on the Drawings and as described in the Specifications will be performed, including all required labor, material, equipment, overhead, profit, bonds, and insurance for the total sum of:

_____Dollars ($_____)

1.2 BID BREAKDOWN

A.	General Conditions	$_____
B.	Demolition	$_____
C.	Repair Cracked Concrete	$_____
D.	Repair Spalled Concrete	$_____
E.	Install Adhesive Anchors	$_____
F.	Replace Cracked Black Granite Panels	$_____
G.	Repair Granite Panels – Dutchman Patch with Original Pieces	$_____
H.	Repair Granite Panels – Dutchman Patch with Cut Stone	$_____
I.	Repair Marble Panels	$_____
J.	Install Sheet Metal Copings	$_____
K.	Install "Wet Seal"	$_____
L.	Grind out/saw-cut masonry joints	$_____
M.	Install Panel Sealant Joints	$_____
N.	Install Elastomeric Coating at Concrete	$_____
O.	Overhead and Profit	$_____
P.	Total	$_____

1.3 UNIT PRICES

The stipulated sum of a unit price work item shall be added to or deducted from the contract amount by change orders based on the actual quantity of work performed over allowances for individual items in Article 1.2 above. Unit prices shall include labor, material, equipment, taxes, insurance, permit fees and applicable overhead and profit.

No.	Description	Add/Deduct ($)	Measure
1	Concrete Crack Repair		/ln ft
2	Concrete Spall Repair Type I		/sq in.
3	Concrete Spall Repair Type II		/sq in.
4	Black Granite Panel Replacement		/sq ft
5	Granite Panel Repair – Dutchman Patch with Original Pieces		/Each
6	Granite Panel Repair – Dutchman Patch with Cut Stone		/sq in.
7	Marble Panel Repair – Dutchman Patch with Cut Stone		/sq in.
8	Sheet Metal Copings, installed		/ln ft
9	Perimeter "Wet Seal", installed		/ln ft
10	Grind out/saw-cut masonry joints		/ln ft
11	Panel Sealant Joints, installed		/ln ft
12	Elastomeric Coating at Concrete, installed		/sq ft

1.4 FEES FOR ADDITIONAL WORK

A. General Rates

		Regular Time	Premium Time Weekday	Premium Time Weekend
1.	Apprentice	$_____/hr	$_____/hr	$_____/hr
2.	Laborer	$_____/hr	$_____/hr	$_____/hr
3.	Journeyman	$_____/hr	$_____/hr	$_____/hr
4.	Foreman	$_____/hr	$_____/hr	$_____/hr

B. Cost of Materials Plus_____ %

1.5 TIME OF COMPLETION

The Owner intends to award the contract for construction to the bidder with the most advantageous combination of schedule and cost.
Date of Commencement: _____
Date of Substantial Completion: _____

1.6 PROGRESS SCHEDULE

Contractor shall provide to Engineer a program schedule showing the proposed schedule of work items and their anticipated completion times. The schedule shall be complete and submitted 15 days from the date of Notice of Award. Submit revised schedules biweekly.

1.7 EXECUTION AND RETURN OWNER/CONTRACTOR AGREEMENT

The Undersigned agrees to execute and return the Owner/Contractor Agreement within thirty days after receipt of the Agreement for signing. It is understood that award of contract will be made by the Owner within sixty days after receipt of this Bid.

1.8 GENERAL AGREEMENTS

A. The sum quoted in the guaranteed maximum priced items represents the entire cost of the work of that item. The sum quoted in the guaranteed maximum price items and unit prices includes any and all costs for insurance, including all insurance required by the General Conditions and Supplementary Conditions, bonds, all applicable taxes, and any and all fees for licenses and permits. The Undersigned agrees that no claims will be made for any additional costs or charges for increases in costs including but not limited to higher wage scales or materials prices. Changes in the sum quoted in the guaranteed maximum price items will be made by approved Change Order signed by the Engineer and Owner.

B. The terms "Contract," "Contract Documents," "Work," and "Project," as used herein, are interpreted to be the same as defined in the General Conditions and Supplementary Conditions.

C. The Undersigned has visited and examined the location of the proposed Project and is thoroughly familiar with the Drawings, Specifications, and related Contract Documents, as well as the existing conditions for the site of the Project.

D. The Undersigned has carefully checked all the figures used in compiling the sum quoted in the guaranteed maximum price items and understands that the Owner will not be responsible for any errors and omissions incurred by the Undersigned in the preparation of these prices.

Respectfully submitted this _____ day of_____2009.
By:_____
Title:_____
Phone:_____

Contractor's Name, License Number, and Address:

_____
_____
_____

END OF SECTION

SECTION 00500

CONSTRUCTION CONTRACT

Following is the Construction Contract provided by the owner. Please review the contract as part of the bidding process.

SECTION 00510

CONSTRUCTION RULES AND REGULATIONS

Following is the Construction Rules and Regulations provided by the owner. Please review as part of the bidding process.

100 CALIFORNIA STREET
Construction Rules and Regulations

CONSTRUCTION RULES AND REGULATIONS

1. Prior to commencement of any construction, Tenant's Contractor shall coordinate with Landlord's representatives to ensure that all employees and subcontractors of Tenant's Contractor have received instruction regarding Landlord's requirements for safety, security and fire prevention. All work to be performed shall be coordinated with the managing agent of the Building or its representative. During construction, tenant shall coordinate all construction activities with Landlord's Building Manager so as to minimize the disruption caused by such construction, and so as not to interfere with other construction in the Building or the rights of Landlord, other tenants or occupants.

2. Tenant and Tenant's Agents shall take all safety measures necessary to protect Landlord, its employees and contractors, other tenants and users of the building and the general public, and the property of each, from injury or damage resulting from the performance of the Tenant's Improvement Work.

3. All construction work and all storage and staging of materials, tools and equipment shall be confined to the Premises, unless Landlord gives written permission to use area outside the Premises. Common and public areas of the Building and the sidewalk and curbs in front of or adjacent to the Building shall not be used or obstructed by Tenant or by Tenant's Agents without written approval of Landlord. All storage of materials, tools and equipment within the Premises or the Building shall be at Tenant's risk. Tenant shall immediately relocate at Tenant's expense, any materials found by Landlord to be stored in an unsafe manner. Landlord shall not be responsible of lost, stolen or damaged materials, tools or equipment stored or staged in the Building.

4. Workers will be permitted to use the restrooms specified by Building Management. Restrooms are not to be used for purposes related to Tenant's construction, including, without limitation, for the cleaning of tools, or any other purposes other than the use for which they are intended. Workers must keep areas neat and clean and avoid any disruption to the tenants of the floor. Tenant will be charged if extraordinary cleanup of bathrooms is required.

5. All deliveries shall be scheduled in advance with the Building management office so that materials are stocked in Tenant's premises prior to 7:45 am. No hand trucks shall be used in any portion of the Building, including common areas, except those equipped with rubber tires and side guards. Protective floor covering and doorframe pads must be installed in common areas, which shall be removed at completion of an after-hours delivery.

6. Landlord will not provide off-street parking for Tenant's Agents' vehicles. Loading zones are for loading and unloading purposes only, and no parking in loading zones is permitted. Vehicles parked illegally will be subject to towing at the expense of Tenant or the vehicle owner.

7. Tenant and Tenant's Contractor shall be responsible for ensuring that all doors, gates and windows are closed and locked at all times when not in immediate use.

8. Tenant's Agents are not permitted to transport tools or materials in wheelbarrows or wheeled vehicles in the interior common or public areas of the Building at any time or in the exterior common or public areas of the Building during normal business hours.

9. All work which affects the building life safety system, including, but not limited to, soldering, carpet seaming equipment, smoke detectors, etc., will need to be coordinated with the building management office in order to avoid false fire alarms. This work to be arranged by General Contractor's job supervisor or foreman. All zones under construction will have one smoke detector, flow and tamper active. The remaining units are to be temporarily deprogrammed from fire alarm system until all work that may cause accidental activation has been completed.

10. All construction shall be performed so as to prevent dust from filtering through to other parts of the building. All painting shall be shielded and other parts of the Building shall be protected from all fumes and sprays. General Contractor to provide walk-off mats and/or dust barrier to prevent dust from traveling into common area. All temporary partitions and dust-proof barriers shall remain intact at all times. Should any panel be removed, torn or otherwise displaced or damaged, it will be reattached or repaired and Tenant will be back charged at a reasonable labor and material charge.

11. All sprinkler or life safety shutdowns require 48-hour advance notice to the Building Office and coordinated with the Chief Engineer. All systems are to be returned to functional order in the same day.

12. Hazardous and/or flammable materials brought onto the premises or into the building in connection with Tenant's construction shall be used and stored in containers which conform to all applicable laws and regulations, and shall be used in a manner which prevents their accidental release. Upon bringing Hazardous Materials into the Building, Tenant or Tenant's Contractor shall immediately provide Landlord's Building manager with a copy of the Material Safety Data Sheets (MSDS) for such Hazardous Material. In addition, a new MSDS shall be provided whenever MSDS information is revised. Hazardous

Materials, including empty containers and hazardous wastes, shall not be discarded in the premises or the building, but shall be removed immediately and disposed of in a proper, lawful manner. Tenant's Contractor shall comply with all federal and state OSHA Safety Regulations.

13. Tenant and Tenant's Contractor shall maintain the Premises and related building facilities, surfaces and glass in a clean, orderly condition during the progress of construction, and shall clean up debris and remove trash daily, to the satisfaction of Landlord. Tenant shall make arrangements to remove dirt and debris from work after the end of each workday. No individual trash or storage containers will be allowed in the common or public areas of the Building. Any containers provided by Landlord to Tenant for construction debris shall be at Tenant's expense. Where Landlord does not provided containers for removal of debris, Tenant or Tenant's Contractor shall arrange for trash removal service by a debris or scavenger service only after approval by Landlord is granted. Any dirt, debris, construction materials or equipment remaining in the common or public areas of the Building, or in service corridors or adjoining unoccupied spaces, after commencement of normal business hours, will be removed by Landlord, and Tenant will be back charged at a reasonable rate for labor and material charges.

14. Electrical power shall be provided at Tenant's expense at a suitable existing electrical outlet or other source reasonably near the boundary of the Premises. Tenant shall be responsible for installing a temporary electrical panel and arranging for commencement of electrical, water and other utility services in Tenant's name as early in the construction process as is possible. Temporary or portable wiring beyond the outlet or other source shall be furnished and installed by and at the expense of Tenant and shall comply with all applicable laws and codes. All temporary electrical connections must be approved in advance by Landlord's representatives prior to installation. Tenant and Tenant's Agents shall use their respective best efforts to use the minimal amount of water necessary for work and cleanup of the Premises.

15. Construction workers are not permitted to eat, drink, or play radios in the common or public areas of the Building, except to eat within the premises under construction prior to installation of carpet. In accordance with the San Francisco City and County Ordinance No. 359-93, smoking is prohibited in all areas of the Building at all times.

16. Tenant shall not attach or cause to be attached to any wall or structural member of the Building any equipment that may, by virtue of its size or weight, cause structural damage. Tenant shall not exceed the load as set forth in the plans and specifications for the floor of the Building and shall not do anything that might in any way alter or affect the structural strength of the Building.

17. All HVAC equipment and controls shall be building standard as approved by the Building Management. Upon completion of construction, Contractor shall re-balance the HVAC system and submit a balancing report to the Chief Engineer.

18. Contractor shall furnish a typed electrical panel schedule to the Chief Engineer.

19. All fluorescent light fixtures, doors, frames, hardware, and life safety equipment shall be building standard.

20. If appropriate, as determined by Landlord or as required by any Applicable Laws, a smoke and/or heat detector shall be installed in Tenant's space, at Tenant's expense, during the time any construction work is being performed in the Premises. The smoke and/or heat detector shall be connected by Landlord's specified contractor to the central system at Tenant's expense, if such control system is available.

21. All contractors working on-site must provide a current Certificate of Insurance evidencing coverage as per the attached Contractor Insurance form. We will require the certificates to be submitted to the Building manager prior to commencement of work as a single package delivered by Contractor or Tenant.

22. Contractor shall not prop open, tape or detach door closer arms on required fire doors or base building facilities. Doors to equipment and electrical rooms shall not be left open when Contractor is not present.

23. Contractor shall notify the Building Office at least 48 hours in advance of completion of construction. A walk-through and punch-list will be made of each job, the associated costs of which shall be borne by the Contractor.

24. Upon completion of construction, two sets of as-built prints, one set of as-built sepias and one set of prints on AutoCAD disk shall be forwarded to the Building Office.

25. Except to the extent provided in the Lease to the contrary, expenses incurred by Landlord in respect of the work performed by or on behalf of Tenant shall be paid by Tenant immediately upon receipt of an invoice from Landlord and shall be delinquent if not paid within ten (10) days. Late charges, interest and collection expenses on delinquent payments shall be charged to Tenant in the manner set forth in the Lease for delinquent payment of rents.

26. All doors to construction areas are to be closed at all times to keep tenants from entering the space. Contractors, as well, are restricted from entering any tenant space unless previously arranged with the Management Office.

27. All contractors' supplies can be delivered to the tenant floors by using the designated freight elevator.

28. Keys for shared telephone/electrical rooms can be checked out from the Chief Engineer. If keys are lost, the contractor will be responsible for the costs associated with re-keying the rooms.

29. All contractors should wear clothing, which identifies his or her company. This will help to insure that everyone in the building belongs in the building.

HOT WORKS PERMIT

100 California Street
For Welding, Cutting and Soldering Operations

THIS PERMIT SHOULD BE CONSPICUOUSLY POSTED AT THE JOB SITE

100 CALIFORNIA STREET
Construction Rules and Regulations

Date Permit Issued: _____

Location of Work: _____

Work to be Done: _____

_____

_____

Special Precautions: _____

_____

Is a Fire Watch Required? Yes_____ No_____

The location where the work is to be done has been examined and necessary precautions have been taken. Permission is granted to this work.

This Permit Expires: _____

Signature of Person Authorizing Work: _____

Title: _____ Date: _____

FINAL CHECK-UP

Work areas and adjacent areas were inspected 30 minutes after the work was completed and were found fire safe.

Signature of Contractor or Firewatcher: _____

Title: _____ Date: _____

FOR FIRE EMERGENCY CONTACT:

_____

ACKNOWLEDGEMENTS

100 CALIFORNIA STREET
Construction Rules and Regulations

Any contractor who violates these Building Rules may be ejected from the Building and be denied future access.

I _____, representative of _____ have
(Print Name) (Print Company Name)

read and understand the rules stated above.

_____ (Signature) _____ (Date)

SECTION 01005

ADMINISTRATIVE PROVISIONS

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. Title of Work, and type of Contract.

B. Contractor Use of Premises.

C. Owner Occupancy.

D. Applications for Payment.

E. Coordination.

F. Field Engineering.

G. Reference Standards.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Name: Building Envelope Repairs, 100 California Street, San Francisco, CA

B. Owner and Owner's Representative:
   1. Owner: Broadway Real Estate Services
   2. Owner's Representative: Chaudel Baker

C. Architect/Engineer Identification: The Contract Documents, dated 4 February 2009 were prepared for the Project by Simpson Gumpertz & Heger, Inc.

D. The following brief description is not intended to limit or totally define the scope of work. Refer to the Contract Documents for the entire work included:
   1. Base Bid
      a. Remove and replace black granite panels that are cracked through the full length of the panel or through the supplemental anchor support.
      b. Install supplemental anchors at all black granite panels on floors 3 through 14.
      c. Repair spalls at black and white granite panels.
      d. Remove and replace sealant at all building joints. Remove grout and install sealant and backer rod at panel joints where existing.
      e. Cut back existing exterior gaskets on windows, curtain wall and storefront assemblies and install a sealant "wet seal" at the glass-to-metal framing joints.
      f. Rout and seal cracks, and patch spalls at concrete, including concrete encased beams, roof parapet walls, and base of wall at the 2nd floor roof of

the adjacent low building. Install elastomeric coating at the top and side faces of the concrete encased beams, and over the existing coating at the concrete walls.

g. Patch spalls in marble panels at columns.

h. Remove and replace roof parapet coping. Remove marble coping cap and install sheet metal coping cap.

1.3 CONTRACT METHOD

A. Construct the Work under a single guaranteed maximum.

1.4 CONTRACTOR USE OF PREMISES

A. All of the following areas are to remain accessible during the entire project.
   1. Emergency exit doors and stairs.
   2. Public entries.
   3. Public sidewalks, unless Owner notified and approved by Owner, City, and County of San Francisco.

B. Limit use of premises for Work and for construction operations, to allow for Owner access and occupancy. Contractor shall obtain written permission from the Owner in advance of any of the Contractor's personnel or subcontractor's personnel working or having cause to be on the premises beyond normal working hours.

C. Coordinate use of premises and access to interior of building under direction of Owner. The Owner's representative will coordinate and provide notice of access to all individual tenants. Provide timely notice to Owner's representative of access requirements. Provide written schedules and updates to facilitate the notification process.

D. During working hours, construction workers are prohibited from entering non-contract areas. Work hours to be limited by Owner requirements.

E. The Contractor shall use only authorized access to existing buildings, and shall not block or interfere with traffic or parking facilities, except as authorized in writing by the Owner.

F. All construction deliveries will be received in such a way as to avoid blockage of any city street.

G. The General Contractor will coordinate with the Owner's representative to provide an approved on-site area for employee lunches and breaks, and will ensure that all employee lunches and breaks are taken in approved areas only.

1.5 MISCELLANEOUS PROVISONS

A. Allowances: Base the bid on the allowances defined in Section 01210. These allowances are based on a condition survey conducted by the Architect/Engineer. As part of the work, the Contractor will perform a close-up condition survey and advise the Architect/Engineer of any recommended changes to the quantities of each type of repair.

B. Access: Provide access for the Architect/Engineer and manufacturer's representative to observe the work as it proceeds. Refer to Section 01400 "Quality Control."

1.6 OWNER OCCUPANCY

A. Owner will have access during entire period of construction for the conduct of normal operations. Cooperate with Owner to minimize conflict, and to facilitate operations.

1.7 APPLICATIONS FOR PAYMENT

A. Submit each application under procedures of Section 01300 on AIA form G702 — Application and Certificate for Payment.

B. Content and Format: That specified for Schedule of Values in Section 01300.

1.8 COORDINATION

A. Coordinate work of the various Sections of Specifications to assure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items installed later.

B. Coordinate space requirements and repair work which are indicated diagrammatically on Drawings. Items to remove, remain, or remove and re-install during the work are indicated on the Drawings.

C. Execute cutting and patching to integrate elements of Work, uncover ill-timed, defective, and non-conforming work, provide openings for penetrations of existing surfaces, and provide samples for testing. Seal penetrations through floors, walls, and ceilings.

1.9 REFERENCE STANDARDS

A. For products specified by association or trade standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. The date of the standard is that in effect as of the Bid date, or date of Owner-Contractor Agreement when there are no bids, except when a specific date is specified.

C. Obtain copies of standards when required by Contract Documents. Maintain copy at job site during progress of the specific work.

PART 2 - PRODUCTS

A. Not Used

PART 3 - EXECUTION

A. Not Used

END OF SECTION

SECTION 01120

ALTERATION PROJECT PROCEDURES

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. Procedural requirements.

B. Rehabilitation and renovations of existing spaces and materials.

1.2 RELATED REQUIREMENTS

A. Section 01005 — Administrative Provisions.

B. Section 01500 — Construction Facilities and Temporary Controls.

PART 2 - PRODUCTS

2.1 PRODUCTS FOR PATCHING AND EXTENDING WORK

A. New Materials: As specified in individual Sections.

B. Match existing products and work for patching and extending work.

C. Determine type and quality of existing products by inspection and any necessary testing, and workmanship by use of existing as a standard. Presence of a product, finish, or type of work, requires that patching, extending, or matching shall be performed as necessary to make Work complete and consistent with specifications.

PART 3 - EXECUTION

3.1 INSPECTION

A. Verify that all required demolition is complete, and areas are ready for installation of new work.

B. Beginning of restoration work means acceptance of existing conditions.

3.2 PREPARATION

A. Cut, move, or remove items as necessary for access to alterations and renovations work; replace and restore at completion.

B. Remove unsuitable material not marked for salvage, such as rusted metals, and deteriorated masonry and concrete; replace materials as specified for finished work.

C. Remove debris and abandoned items from area and from concealed spaces.

D. Prepare surfaces and remove surface finishes to provide for proper installation of new work and new finishes.

E. Close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity.

3.3 INSTALLATION

A. Coordinate work of alterations and renovations to expedite completion and to accommodate Owner occupancy.

B. Project shall be complete in all respects including operational mechanical, electrical, and fire protection systems.

C. Remove, cut, and patch work in a manner to minimize damage and to provide means of restoring products and finishes to specified condition.

3.4 TRANSITIONS

A. Where new work abuts or aligns with existing, make a smooth and even transition. Patched work shall match existing adjacent work in texture and appearance.

B. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Engineer.

3.5 ADJUSTMENTS

A. Where a change of plane of 1/8 in. or more occurs, request instructions from Engineer.

3.6 REPAIR OF DAMAGED SURFACES

A. Patch or replace portions of existing surfaces which are damaged by the work of this Contract.

B. Repair substrate prior to patching finish.

3.7 FINISHES

A. Finish surfaces as specified in individual Sections.

3.8 CLEANING

A. In addition to cleaning specified in Section 01500, clean Owner-occupied areas of work daily.

END OF SECTION

SECTION 01200

PROJECT MEETINGS

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. Contractor participation in preconstruction conferences.

B. Contractor administration of progress meetings and pre-installation conferences.

1.2 RELATED REQUIREMENTS

A. Instructions to Bidders: Pre-Bid Conference.

B. Section 01005 — Administrative Provisions: Coordination.

C. Section 01300 — Submittals: Construction Progress Schedules, Shop Drawings, Product Data, and Samples.

D. Section 01400 — Quality Control.

E. Section 01700 — Contract Closeout: Project Record Documents, and Operation and Maintenance Data.

1.3 PRECONSTRUCTION CONFERENCE

A. General Contractor will administer preconstruction conference at Project site for clarification of Owner and Contractor responsibilities in use of site and for review of administrative procedures. Require attendance of all subcontractors.

1.4 PROGRESS MEETINGS

A. Schedule and administer Project meetings throughout progress of the Work at weekly intervals, called meetings, and pre-installation conferences.

B. Suggested Agenda: Review of Work progress, status of progress schedule and adjustments thereto, delivery schedules, submittals, maintenance of quality standards, pending changes and substitutions, and other items affecting progress of Work.

1.5 PRE-INSTALLATION CONFERENCES

A. When required in individual specification Section, convene a pre-installation conference prior to commencing work of the Section.

B. Require attendance of entities directly affecting, or affected by, work of the Section.

C. Review conditions of installation, preparation and installation procedures, and coordination with related work.

PART 2 - PRODUCTS

2.1 Not Used

PART 3 - EXECUTION

3.1 Not Used

END OF SECTION

SECTION 01210

ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements governing allowances.
   1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.

B. Types of allowances include the following:
   1. Lump-sum allowances.
   2. Unit-cost allowances.
   3. Quantity allowances.

C. Related Sections include the following:
   1. Division 1 Section "Unit Prices" for procedures for using unit prices.
   2. Division 3 Sections for items of Work covered by allowances.
   3. Division 4 Sections for items of Work covered by allowances.

1.3 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise Engineer of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

B. At Engineer's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

C. Purchase products and systems selected by Engineer from the designated supplier.

1.4 SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

B. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.5 COORDINATION

A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.6 LUMP-SUM, UNIT-COST AND QUANTITY ALLOWANCES

A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Engineer under allowance and shall include taxes, freight, and delivery to Project site.

B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials under allowance shall be included as part of the Contract Sum and not part of the allowance.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALLOWANCES

A. Allowance No. 1:
   1. Crack Repair as specified in Division 3 Section "Concrete Repairs".
   2. Amount: 750 ln ft

B. Allowance No. 2:
   1. Concrete Spall Repair Type II as specified in Division 3 Section "Concrete Repairs."
   2. Amount: 300 sq in.

C. Allowance No. 3:
   1. Black Granite Panel Replacement as specified in Division 4 Section "Dimensional Stone Masonry Repair."

2. Amount: 450 sq ft

D. Allowance No. 4:
   1. Granite Panel Repair – Dutchman Patch with Original Pieces as specified in Division 4 Section "Dimensional Stone Masonry Repair."
   2. Amount: 200 occurrences

E. Allowance No. 5:
   1. Granite Panel Repairs – Dutchman Patch with Cut Stone as specified in Division 4 Section "Dimensional Stone Masonry Repair."
   2. Amount: 3600 sq in.

F. Allowance No. 6:
   1. Marble Panel Repairs – Dutchman Patch with Cut Stone as specified in Division 4 Section "Dimensional Stone Masonry Repair."
   2. Amount: 360 sq in.

G. Allowance No. 7:
   1. Grind out/saw cut Masonry Joints as specified in Division 02 Section "Selective Demolition."
   2. Amount: 250 ln ft

END OF SECTION

SECTION 01270

UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for unit prices.

B. Related Sections include the following:
1. Division 1 Section "Quality Control" for general testing and inspecting requirements.

1.3 DEFINITIONS

A. Unit price is an amount proposed by bidders, stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.

B. Measurement and Payment: Refer to individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

D. List of Unit Prices: A list of unit prices is included at the end of this Section. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 LIST OF UNIT PRICES

A. Unit Price No. 1–
   1. Description: Crack Repair as specified in Division 3 Section "Concrete Repairs".
   2. Unit of Measurement: linear feet

B. Unit Price No. 2 –
   1. Description: Concrete Spall Repair Type I as specified in Division 3 Section "Concrete Repairs."
   2. Unit of Measurement: square inches

C. Unit Price No. 3 –
   1. Description: Concrete Spall Repair Type II as specified in Division 3 Section "Concrete Repairs."
   2. Unit of Measurement: square inches

D. Unit Price No. 4 –
   1. Description: Black Granite Panel Replacement as specified in Division 4 Section "Dimensional Stone Masonry Repair."
   2. Unit of Measurement: square feet

E. Unit Price No. 5 –
   1. Description: Granite Panel Repair – Dutchman Patch with Original Pieces as specified in Division 4 Section "Dimensional Stone Masonry Repair."
   2. Unit of Measurement: each

F. Unit Price No. 6 –
   1. Description: Granite Panel Repairs – Dutchman Patch with Cut Stone as specified in Division 4 Section "Dimensional Stone Masonry Repair."
   2. Unit of Measurement: square inches

G. Unit Price No. 7–
   1. Description: Marble Panel Repairs – Dutchman Patch with Cut Stone as specified in Division 4 Section "Dimensional Stone Masonry Repair."
   2. Unit of Measurement: square inches

H. Unit Price No. 8 –
   1. Description: Install sheet metal copings as specific in Division 7 Section "Sheet Metal Flashing and Trim"
   2. Unit of Measurement: linear foot

I. Unit Price No. 9 –
   1. Description: Install perimeter "wet seal" as specified in Division 7 Section "Joint Sealants"

2. Unit of Measurement: linear foot

J. Unit Price No. 10 –
   1. Description: Grind out/saw-cut masonry joints as required to create 1/4 in. (min.) width joint as specified in Division 7 Section "Joint Sealants"
   2. Unit of Measurement: linear foot

K. Unit Price No. 11 –
   1. Description: Install panel sealant joints as specified in Division 7 Section "Joint Sealants"
   2. Unit of Measurement: linear foot

L. Unit Price No. 12 –
   1. Description: Install elastomeric coating at concrete as specified in Division 9 Section "Elastomeric Coatings"
   2. Unit of Measurement: square feet

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. Procedures.

B. Construction Progress Schedules.

C. Schedule of Values.

D. Products List.

E. Shop Drawings.

F. Product Data.

G. Manufacturer's Instructions.

H. Manufacturers' Certificates.

I. Samples.

J. Field samples.

1.2 RELATED REQUIREMENTS

A. Section 01005 — Administrative Provisions: Unit prices, Applications for Payment.

B. Section 01400 — Quality Control: Testing laboratory reports, Manufacturers' field service reports.

C. Section 01600 — Material and Equipment: Contractor's list of Products.

D. Section 01700 — Contract Closeout: Closeout submittals.

1.3 PROCEDURES

A. Deliver submittals to Engineer at address listed on cover of Project Manual.

B. Transmit each item under Engineer-accepted form. Identify Project, Contractor, subcontractor, major supplier; identify pertinent Drawing sheet and detail number, and Specification Section number, as appropriate. Identify deviations from Contract Documents. Provide space for Contractor and Engineer review stamps.

C. Submit initial progress schedules and schedule of values in duplicate within 15 days after date of Owner-Contractor Agreement. After review by Engineer, revise and resubmit as required. Submit revised schedules with each Application for Payment, reflecting changes since previous submittal.

D. Comply with progress schedule for submittals related to Work progress. Coordinate submittal of related items.

E. After Engineer review of submittal, revise and resubmit as required, identifying changes made since previous submittal.

F. Distribute copies of reviewed submittals to concerned persons. Instruct recipients to promptly report any inability to comply with provisions.

1.4 CONSTRUCTION PROGRESS SCHEDULES

A. Submit horizontal bar chart with separate bar for each major trade or operation and area of work, identifying first work day of each week.

B. In lieu of horizontal bar chart, Contractor may submit network analysis system using the critical path method, generally as outlined in Associated General Contractors of America (AGC) publication "The Use of CPM in Construction — A Manual for General Contractors".

C. Show submittal dates required for shop drawings, product data, and samples, and product delivery dates, including those furnished by Owner and those under Allowances.

D. Submit separate work area schedule to Engineer and Owner's representative on weekly basis for purpose of coordinating notification to owners and tenants and access to interior of buildings. Provide three (3) week rolling schedule indicating addresses, type of work to be performed, and anticipated duration of work.

1.5 SCHEDULE OF VALUES

A. Submit typed schedule on AIA Form G702, Contractor's standard form, or media-driven printout will be considered on request.

B. Format: Table of Contents of this Project Manual and area of work. Identify each line item with number and title of the major Specification Sections.

C. Include in each line item a directly proportional amount of Contractor's overhead and profit.

D. Revise schedule to list change orders, for each application for payment.

1.6 PRODUCTS LIST

A. Within 5 days after date of Owner-Contractor Agreement, submit complete list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

1.7 SHOP DRAWINGS

A. Submit in the form of one opaque reproduction. After review, reproduce and distribute in accordance with requirements in Article on Procedures, above.

1.8 PRODUCT DATA

A. Mark each copy to identify applicable products, models, options, and other data; supplement manufacturers' standard data to provide information unique to the Work.

B. Submit the number of copies which Contractor requires, plus two copies which will be retained by Engineer.

1.9 MANUFACTURER'S INSTRUCTIONS

A. When required in individual Specification Section, submit manufacturer's printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for product data.

1.10 MANUFACTURERS' CERTIFICATES

A. When required by individual Specifications Section, submit manufacturer's certificate, in duplicate, that products meet or exceed specified requirements.

1.11 SAMPLES

A. Submit full range of manufacturers' standard colors, textures, and patterns for Engineer's selection. Submit samples for selection of finishes within fifteen (15) days after date of Contract.

B. Submit samples to illustrate functional characteristics of the product, with integral parts and attachment devices. Coordinate submittal of different categories for interfacing work.

C. Include identification on each sample, giving full information.

D. Submit the number specified in respective Specification section; one will be retained by Engineer. Reviewed samples which may be used in the Work are indicated in the Specification Section.

1.12 FIELD SAMPLES

A. Provide field samples of finishes at Project as required by individual Specifications section. Install sample complete and finished. Acceptable samples in place may be retained in completed Work.

PART 2 - PRODUCTS

2.1 Not Used

PART 3 - EXECUTION

3.1 Not Used

END OF SECTION

SECTION 01400

QUALITY CONTROL

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. General quality control.

B. Workmanship.

C. Manufacturer's instructions.

D. Manufacturers' field services.

E. Testing laboratory services.

1.2 RELATED REQUIREMENTS

A. General conditions: Inspection and testing required by governing authorities.

B. Section 01005 — Administrative Provisions: Applicability of specified reference standards.

C. Section 01300 — Submittals: Submittal of Manufacturer's Instructions.

1.3 QUALITY CONTROL, GENERAL

A. Maintain quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Inspection and testing will be by the Owner or Engineer. Inspection and tests may be made on any components at any time.

1.4 WORKMANSHIP

A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.

B. Perform work by persons qualified to produce workmanship of specified quality.

C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

1.5 MANUFACTURERS' INSTRUCTIONS

A. Comply with instructions in full detail, including each step in sequence. Should instructions conflict with Contract Documents, request clarification from Engineer before proceeding.

1.6 MANUFACTURERS' FIELD SERVICES

A. When specified in respective Specification Sections, require supplier or manufacturer to provide qualified personnel to observe field conditions, conditions of surfaces and installation, quality of workmanship, as applicable, and to make appropriate recommendations.

B. Representative shall submit written report to Engineer listing observations and recommendations.

PART 2 - PRODUCTS

2.1 Not Used

PART 3 - EXECUTION

3.1 Not Used

END OF SECTION

SECTION 01500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. Electricity, Lighting.

B. Water.

C. Sanitary Facilities.

D. Barriers.

E. Enclosures.

F. Protection of Installed Work.

G. Security.

H. Cleaning During Construction.

I. Removal.

J. Contractor Temporary Office.

1.2 RELATED REQUIREMENTS

A. Section 01005 — Administrative Provisions: Contractor use of premises, Owner occupancy, Coordination of Work.

B. Section 01700 — Contract Closeout: Final cleaning.

1.3 MAINTENANCE AND NOTICES

A. The Contractor is solely responsible for the proper and safe operation and maintenance of all utility systems within the construction limits, whether these are supplied by the Owner's distribution system or otherwise, until the work is accepted by the Owner, and until the Owner has notified the Contractor that other arrangements have been made. The Contractor shall maintain and operate appurtenances within the building(s) which serve the distribution system, subject to periodic inspection by the Owner's operating personnel. Inspection by any representative and personnel of the Owner shall not relieve the Contractor of his responsibilities in connection with operation and maintenance of these facilities and equipment.

B. The Contractor shall notify the Owner's representative at least 72 hours in advance of the desire to extend, connect, disconnect, turn on or off any steam, electric, gas, water, or other service from the Owner's supply systems. The actual operation shall be witnessed and approved by authorized representatives of the Owner. All plumbing, heating, and electrical work, including installation of equipment and any other work to be performed by the Contractor, shall be carried out without interference with the Owner's normal operation. Where any work requires interruption of any service, the Contractor shall make advance arrangements with the Owner for dealing with such interruption.

1.4 ELECTRICITY, LIGHTING

A. Connect to existing service, where directed by Owner. Provide branch wiring and distribution boxes located to allow service and lighting by means of construction-type power cords. Owner will pay costs of energy used. Take measures to conserve energy.

B. Provide lighting for construction operations.

C. Existing and permanent lighting may be used during construction. Maintain lighting and make routine repairs.

1.5 WATER

A. Connect to existing facilities as directed by Owner. Owner will pay for reasonable amounts of water used.

1.6 SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures.

B. Existing facilities shall not be used.

1.7 BARRIERS

A. Provide as required to prevent public entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.

B. Provide 6 ft high fence around construction storage site; equip with vehicular and pedestrian gates with locks. Construction: Commercial grade chain link fence.

C. Provide barriers around trees and plants not scheduled or shown to be removed. Protect against vehicular traffic, stored materials, dumping, chemically injurious materials, and puddling or continuous running water.

1.8 ENCLOSURES

A. Provide temporary weathertight closures of openings in exterior surfaces to provide protection for materials.

B. Provide temporary partitions and ceilings as required to separate work areas from Owner occupied areas, to prevent penetration of dust into Owner occupied areas, to prevent damage to existing furnishings and furniture. Construction: Framing and sheet materials with closed joints and sealed edges at intersections with existing surfaces.

1.9 PROTECTION OF EXISTING OR INSTALLED WORK

A. Provide temporary protection for installed products.

B. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings. Protect finished floors and stairs from traffic, movement of heavy objects, and storage.

C. The Contractor shall remove all stains, spots, marks, debris, and dirt resulting from his operations from all surfaces. The building shall be absolutely clean when the work is turned over to the Owner.

D. Do not load any part of structure with weight that will damage or endanger structure.

E. Obtain and pay for use of additional storage or work areas needed for operations.

1.10 SECURITY

A. Provide security program including identification badges for all workers and facilities to protect work and Owner's operations from unauthorized entry, vandalism, and theft. Coordinate with Owner's security program.

1.11 CLEANING DURING CONSTRUCTION

A. Control accumulation of waste materials and rubbish. Maintain good "housekeeping" at all times around the site, around the structure and within the structure.

B. Safely conduct debris to trucks or approved containers. Dispose of all debris in a legal manner, off the site.

C. Clean interior areas prior to start of finish work, maintain areas free of dust and other contaminants during finishing operations.

1.12 REMOVAL

A. Remove temporary materials, equipment, services, and construction prior to Substantial Completion inspection.

B. Clean and repair damage caused by installation or use of temporary facilities. Restore existing facilities used during construction to specified, or to original, condition.

PART 2 - PRODUCTS

2.1 Not Used

PART 3 - EXECUTION

3.1 Not Used

END OF SECTION

SECTION 01600

MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. Products.

B. Transportation and Handling.

C. Storage and Protection.

D. Product Options.

E. Substitutions.

1.2 RELATED REQUIREMENTS

A. Section 01005 — Administrative Provisions: Contractor use of premises, Coordination of Work.

B. Section 01400 — Quality Control: Submittal of manufacturers' certificates.

C. Section 01500 — Construction Facilities and Temporary Controls: Barriers, enclosures, security and protection of installed work.

D. Section 01700 — Contract Closeout: Operation and maintenance data.

1.3 PRODUCTS

A. Products include material, equipment, and systems.

B. Comply with Specifications and referenced standards as minimum requirements.

C. Components required to be supplied in quantity within a Specification section shall be the same, and shall be interchangeable.

D. Do not use materials and equipment removed from existing structure, except as specifically required, or allowed, by Contract Documents.

1.4 TRANSPORTATION AND HANDLING

A. Transport products by methods to avoid product damage; deliver in undamaged condition in manufacturer's unopened containers or packaging, dry.

B. Provide equipment and personnel to handle products by methods to prevent soiling or damage.

C. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.

1.5 STORAGE AND PROTECTION

A. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight enclosures; maintain within temperature and humidity ranges required by manufacturer's instructions.

B. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with canvas tarpaulin covering; provide ventilation to avoid condensation.

C. Arrange storage to provide access for inspection. Periodically inspect to assure products are undamaged, and are maintained under required conditions.

1.6 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards.

B. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not specifically named.

C. Products Specified by Naming Several Manufacturers: Products of named manufacturers meeting specifications: No options, no substitutions allowed.

D. Products Specified by Naming Only One Manufacturer: No options, no substitutions allowed.

1.7 SUBSTITUTIONS

A. Only within 30 days after date of Owner-Contractor Agreement will Engineer consider requests from Contractor for substitutions. Subsequently, substitutions will be considered only when a product becomes unavailable due to no fault of Contractor.

B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

C. Request constitutes a representation that Contractor:
   1. Has investigated proposed product and determined that it meets or exceeds, in all respects, specified product.
   2. Will provide the same warranty for substitution as for specified product.

3. Will coordinate installation and make other changes which may be required for Work to be complete in all respects.
4. Waives claims for additional costs which may subsequently become apparent.

D. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals without separate written request, or when acceptance will require substantial revision of Contract Documents.

E. Engineer will determine acceptability of proposed substitution, and will notify Contractor of acceptance or rejection in writing within a reasonable time.

F. Only one request for substitution will be considered for each product. When substitution is not accepted, provide specified product.

PART 2 - PRODUCTS

2.1 Not Used

PART 3 - EXECUTION

3.1 Not Used

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. Closeout Procedures.

B. Final Cleaning.

C. Project Record Documents.

D. Operation and Maintenance Data.

E. Warranties and Bonds.

F. Spare Parts and Maintenance Materials.

1.2 RELATED REQUIREMENTS

A. General Conditions: Fiscal provisions, legal submittals, and other administrative requirements.

B. Section 01005 — Administrative Provisions: Application For Payment.

C. Section 01500 — Construction Facilities and Temporary Controls: Cleaning during construction.

1.3 CLOSEOUT PROCEDURES

A. When Contractor considers Work has reached final completion, submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's inspection.

B. In addition to submittals required by the conditions of the Contract, provide submittals required by governing authorities, and submit a final statement of accounting giving total adjusted Contract Sum, previous payments, and sum remaining due.

C. Engineer will issue a final Change Order reflecting approved adjustments to Contract Sum not previously made by Change Order.

1.4 FINAL CLEANING

A. Execute prior to final inspection.

B. Clean surfaces exposed to view; remove temporary labels, stains and foreign substances. Clean equipment and fixtures to a sanitary condition. Clean roofs, sidewalks, and drainage systems.

C. Clean site; sweep paved areas.

D. Remove waste and surplus materials, rubbish, and construction facilities from the Project and from the site.

1.5 PROJECT RECORD DOCUMENTS

A. Store documents separate from those used for construction.

B. Keep documents current; do not permanently conceal any work until required information has been recorded.

C. At Contract closeout, submit documents with transmittal letter containing date, Project title, Contractor's name and address, list of documents, and signature of Contractor.

1.6 WARRANTIES AND BONDS

A. Provide duplicate, notarized copies. Execute Contractor's submittals and assemble documents executed by subcontractors, suppliers, and manufacturers. Provide table of contents and assemble in binder with durable plastic cover.

B. Submit material prior to final application for payment.

PART 2 - PRODUCTS

2.1 Not Used

PART 3 - EXECUTION

3.1 Not Used

END OF SECTION

SECTION 01788

WARRANTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division1 Specification Sections, apply to this Section.

1.2 DESCRIPTION

A. This Section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturers' standard guaranties, warranties on products and special warranties.

B. Refer to the General conditions for terms of the Contractor's special warranty of workmanship and materials.

C. Specific requirements for warranties for the work and products and installations that are specified to be guaranteed or warranted are included in the individual Sections of Divisions 2 through 16.

D. Certifications and other commitments and agreements for continuing services to the Owner are specified elsewhere in the Contract Documents.

E. Disclaimers and Limitation: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

1.3 DEFINITIONS

A. The terms product guaranty or warranty are synonymous for this Project and shall be taken to mean the required guaranty or warranty required by the Contract General Conditions or by the Contract Drawings or Specifications.

B. Standard Product Warranties are pre-printed written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.

C. Special Warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner. Special Warranties shall be in writing.

1.4 WARRANTY REQUIREMENTS

A. Related Damages and Losses: When correcting warranted work that has failed, remove and replace other work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted work.

B. Reinstatement of Warranty: When work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

C. Replacement Cost: Upon determination that work covered by warranty has failed, replace or rebuild the work to an acceptable condition complying with requirements of Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective work regardless of whether the Owner has benefited from use of the work through a portion of its anticipated useful service life.

D. Owner's Recourse: Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.

E. The Owner reserves the right to refuse to accept work for the Project where a special warranty, certification, or similar commitment is required on such work or part of the work, until evidence is presented that entities required to countersign such commitments are willing to do so.

1.5 SUBMITTALS

A. Submit a copy of the Standard or Special written warranties to the Owner for each specification section as part of the complete submittal package for review and approval by the Architect.

B. Submit written warranties to the Owner prior to the date of acceptance by the Owner. Submittal of the project Guarantees and Warranties is a requirement precedent to the filing of the Notice of Completion by the Owner.
   1. When a designated portion of the work is completed and occupied or used by the Owner, by separate agreement with the Contractor during the construction period but prior to acceptance of the entire project, contractor shall submit properly executed warranties to the Owner within fifteen days of occupancy or use of that designated portion of the work.

C. When a special warranty is required to be executed by the Contractor, or the Contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner through the Architect for approval prior to final execution.

D. Form of Submittal: At Final Completion compile two copies of each required warranty and bond properly executed by the Contractor, or by the Contractor, subcontractor,

supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.

E. Bind warranties and bonds in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-inch by 11-inch paper.
   1. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name, of the product, and the name, address and telephone number of the installer.
   2. Identify each binder on the front and the spine with the typed or printed title "WARRANTIES GUARANTEE, BONDS", the Project title or name, and the name of the Contractor.
   3. When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

SECTION 02070

SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Demolition and removal of designated materials from site.

B. Refer to items as scheduled at end of section.

1.2 RELATED SECTIONS

A. Section 01005 — Administrative Provisions: Work sequence for Owner continued occupancy.

B. Section 01120 — Alteration Project Procedures: Inspection.

C. Section 01270 – Unit Prices: Requirements applicable to unit prices for the work of this Section.

D. Section 01500 — Construction Facilities and Temporary Utilities Controls: Barriers and dust control.

E. Section 01600 — Material and Equipment.

F. Section 01700 — Contract Closeout: Project record documents

G. Section 04060 – Masonry Mortars

H. Section 04431 – Dimensional Stone Masonry Repair

I. Section 07620 – Sheet Metal Flashing and Trim

J. Section 07900 – Joint Sealants

1.3 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Shop Drawings: Indicate location and construction of barricades, fences and temporary work.

1.4 REGULATORY REQUIREMENTS

A. Conform to applicable codes and regulations for demolition of structures, safety of adjacent structures, dust control, and disposal.

B. Obtain required permits from authorities.

C. Notify affected utility companies before starting work and comply with their requirements.

D. Do not close or obstruct sidewalks or hydrants without permits.

E. Conform to applicable regulatory procedures when discovering hazardous or contaminated materials.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PREPARATION

A. Provide, erect, and maintain temporary barriers and security devices as required for conduct of the work and as approved by Owner.

B. Protect trees, plant growth, existing landscaping materials, appurtenances, structures, and finish materials which are not to be demolished.

C. Protect existing structures and paving from damage or displacement.

D. Where the nature of demolition requires their use, erect and maintain trash and dust chutes for disposal of materials, rubbish and debris.

3.2 DEMOLITION REQUIREMENTS

A. Conduct demolition in a manner as to minimize interference with adjacent occupancies.

B. Conduct operations with minimum interference to public or private accesses. Provide barriers as required to prevent public and private entry to construction areas during and after work hours clearly marking alternate routs to fire exit paths.

C. General: Demolish and remove existing construction only to the extent required, as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
   1. Proceed with selective demolition systematically.
   2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining

construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.

3. Do not use cutting torches.
4. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
5. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on structure.
6. Dispose of demolished items and materials promptly.
7. Return elements of construction and surfaces that are to remain to condition existing before selective demolition operations began.
8. Protect all exposed surfaces from inclement weather during construction processes.

D. Existing Facilities: Comply with Owner's requirements for using and protecting elevators, stairs, walkways, building entries, and other building facilities during selective demolition operations.

E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition.

F. Sprinkle Work with water to minimize dust. Provide hoses and water connections for this purpose.

3.3 DEMOLITION

A. Remove demolished materials, plant life, and debris from site.

B. Remove temporary work.

3.4 PATCHING AND REPAIRS

A. General: Promptly repair damage to adjacent construction caused by selective demolition operations.

B. Repairs: Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials.

C. Finishes: Restore exposed finishes of patched areas and extend restoration into adjoining construction in a manner that eliminates evidence of patching and refinishing.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.

1. Do not allow demolished materials to accumulate on-site.

2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.6 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by building demolition operations. Return adjacent areas to condition existing before building demolition operations began.

3.7 SCHEDULES

A. Items to Be Removed and Discarded (Base Bid)
1. Marble column coping caps, as shown on the Drawings.
2. Grout at stone panel joints, if existing.
3. Cut back exterior window gaskets, as shown on the Drawings.
4. Weep tubes at base of black granite panels, as shown on the Drawings.

B. Items to Be Removed and Replaced (Base Bid)
1. Bird spikes at top face of concrete encased beam, as shown on the Drawings.
2. Black granite panels, as required in Division 04 Section "Dimensional Stone Masonry Repair"
3. Mortar bed behind removed stone panels.
4. Stainless steel clips and shelf anchors at removed stone panels, as shown on the Drawings.
5. Metal parapet coping.
6. All sealant joints.

C. Items to Be Removed, Stored, and Reinstalled
1. Metal closure strips at columns, as shown on the Drawings.

END OF SECTION

SECTION 03700

CONCRETE REPAIRS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Concrete crack and spall repairs.

1.3 RELATED SECTIONS

A. Work related to this Section includes, but is not limited to, the following:

1. Section 07900 – Sealant Joints
2. Section 09960 – Elastomeric Coatings

1.4 ALLOWANCES

A. Quantity allowances for spall repairs are specified in Division 1 Section "Allowances."

1. Perform concrete repair work included in quantity allowances.
2. Perform work that exceeds quantity allowances per Unit Prices only as authorized by Change Orders and as defined in this Section.

1.5 UNIT PRICES

A. Unit prices for concrete repair are specified in Division 1 Section "Unit Prices."

1. Unit prices apply to authorized work covered by quantity allowances.

1.6 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Submit product data for each product specified.

1.7 QUALITY ASSURANCE

A. Applicator: Company specializing in concrete repairs with five years documented experience.

B. Installer: Person specializing in concrete repairs with five years documented experience.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site under provisions of Section 01600.

B. Store and protect products under provisions of Section 01600.

C. Comply with instructions for storage, shelf-life limitations, and handling.

1.9 ENVIRONMENTAL

A. Do not apply repair mortar when substrate or ambient air temperature is less than 50°F or more than 80° F.

B. Maintain a minimum ambient temperature of 50° F during installation of repair mortar and during curing.

1.10 MOCK-UP

A. Construct a mock-up of concrete spall repair before full production. The location of the mock-up will be selected by the Engineer.

B. Do not proceed with the work until the mock-up is approved by the Engineer.

C. Approved mock-up shall serve as basis for acceptable quality of final repairs. Approved mock-up may remain as part of the Work.

PART 2 - PRODUCTS

2.1 GENERAL

A. Products included in this Section which form basis of design, or approved equals.

1. Materials will be considered for substitution subject to requirements of Division 1 Section "Material and Equipment"

2.2 MATERIALS

A. Water: Potable.

B. Patching Mortar: SikaRepair SHB with SikaLatex R (up to 50% SikaLatex R with 50% water), by Sika Corporation.
1. Finishing Time: (Initial Set) 2-3 hours.
2. 28-day Compressive Strength with Latex R: 5,000 psi; ASTM C-1090.
3. 28-day Flexural Strength with Latex R: 1,400 psi; ASTM C-293.
4. 28-day Bond Strength with Latex R: 1,800 psi; ASTM C-882 modified.

C. Anti-Corrosion Coating: Sika Armatec 110 EpoCem, by Sika Corporation.
1. 28-day Compressive Strength: 8,500 psi; ASTM C-109.
2. 28-day Flexural Strength: 1,250 psi; ASTM C-348.
3. 28-day Splitting Tensile Strength: 600 psi; ASTM C-496.
4. Water Permeability at 10 bar (145 psi): 8.92×10^{-15} ft/sec.
5. Bond of coated steel reinforcement to concrete (pullout test): 600 psi minimum.
6. Reduction of corrosion rate: 40% minimum.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Check for incipient spalls on the concrete by tapping the wall surface and listening for hollow sounds indicating delaminations. Remove all delaminated and loose concrete until sound concrete is found.

3.2 SURFACE PREPARATION

A. Close off, seal, mask, or board up areas, materials, and surfaces as required to protect from damage.

B. Protect surfaces from damage and immediately remove stains, efflorescence, and excess materials resulting from concrete repair.

C. Remove all loose particles and deleterious materials from the exposed sound concrete, and clean any exposed reinforcing bars by wire brushing. Clean metal to SSPC-6, commercial blast finish, or better.

D. Concrete Surfaces: Prepare the substrate by blast-cleaning, water blasting, or a combination of the two.

1. Concrete surfaces shall have a slightly open, scarified substrate. All surfaces must be clean, dry, sound, and frost-free with all residues and other contaminants removed.

E. Concrete Cracks
   1. For cracks greater than 1/32 in. in width, rout out the crack at approximately 45°.
   2. Remove all loose and unsound concrete in the area to be repaired.

F. Concrete Spalls
   1. Provide 1/4 in. deep saw cut edges around the perimeter of the repair area, normal to the face of the surrounding concrete. Do not cut into reinforcement or structural steel. Reduce depth of saw cut over reinforcement or structural steel as required.
   2. Remove all loose and unsound concrete in the area to be repaired. Remove concrete to such additional breadth and depth as required to expose undamaged reinforcing bars or structural steel and a surface of sound uncontaminated concrete. Where reinforcing bars are exposed for more than one-half the bar perimeter, remove concrete to a minimum depth of 3/4 in. behind the reinforcing bar.
   3. Exposed structural steel or steel reinforcement within the substrate should be high-pressure washed and mechanically cleaned to shiny metal. Prime with Anti-Corrosion Coating in accordance with manufacturer's written instructions before applying patching mortar. Refer to manufacturer's literature for maximum open times.

G. Pressure wash wall surface. Take all appropriate measures to contain water so as to avoid water overspray onto adjacent properties and street.

H. Beginning of installation means installer accepts existing conditions.

3.3 CRACK AND SPALL REPAIRS

A. Mix and apply patching mortar in strict accordance with the manufacturer's written instructions.

B. Immediately prior to patching, pre-wet area to receive patch to point of saturation. Dry surface of all excess, glistening/standing water to saturated surface dry.

C. Spalls at Existing Reinforcement or Structural Steel
   1. Apply anti-corrosion coating to cleaned rebars or structural steel per manufacturer's recommendations. Observe manufacturer's open times for anti-corrosion coating.

D. Cracks (greater than 1/32 in. in width)
   1. Apply repair mortar per article 3.4 below.

E. Spalls Type 1 (depth less than 1-1/2 in. and spalls at existing reinforcement or structural steel)
   1. Apply repair mortar per article 3.4 below.

F. Spalls Type 2 (depth greater than or equal to 1-1/2 in.)
   1. Install drilled anchors and stainless steel tie wire or stainless steel wire mesh.

a. Provide one anchor every 10 sq in., with a minimum of two anchors per repair. Set anchors with head at mid-depth of patch but in no case with less than 3/4 in. clear concrete cover.
b. Wrap stainless steel wire between anchors in a crisscross pattern, or use stainless steel wire mesh.

3.4 REPAIR MORTAR APPLICATION

A. Apply a slurry coat over area to receive repair mortar.

B. While slurry coat is still wet, hand-apply patching mortar, working material into voids.
1. Add water to a small amount of patching mortar mix until a thick consistency slurry coat is obtained.

C. Finish flush with existing concrete wall surface.

3.5 CURING

A. All curing should be in strict accordance with the manufacturer's recommendations.
1. Moisture cure concrete patches for a minimum of 4 days.
2. Protect newly applied cementitious coating from direct sunlight, wind, rain, and freezing.

B. Appearance of plastic shrinkage cracks due to inadequate finishing and curing, or poor aesthetic match to original profile and texture shall be a cause for rejecting the work so affected. Repair mortar in the rejected area shall be removed and replaced at no additional cost to the Owner.

C. During the curing period, the repair mortar shall be protected from damage due to mechanical disturbances such as shock and vibration due to adjacent construction activity. All finished concrete and cement plaster surfaces shall be protected from damage.

END OF SECTION

SECTION 03931

ADHESIVE ANCHORS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section

1.2 SUMMARY

A. Threaded rods set in holes drilled in concrete and masonry.

1.3 RELATED SECTIONS

A. Work related to this Section includes, but is not limited to, the following:
   1. Section 04431 – Dimensional Stone Masonry Repair

1.4 REFERENCES

A. ASTM E 488 - Standard Test Methods for Strength of Anchors in Concrete and Masonry Elements; 1996 (Reapproved 2003).

B. ASTM F 593 CW1 (316) – Standard Steel Specification for Stainless Steel Bolts, 65 ksi Yield Strength, 100 ksi Ultimate Strength

C. ICC-ES AC308 - Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete Elements; ICC Evaluation Service, Inc.; 2007.

1.5 SUBMITTALS

A. See Section 01300 - Submittal Procedures, for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Installation methods.
   3. Storage and handling requirements and recommendations.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Firm having a minimum of five years of experience producing products of the type specified, with a complete line of installation tools and accessories.

1.7 SPECIAL INSPECTION

A. The Owner will engage a qualified Testing Agency to perform testing and inspection related to the work specified in this Section.
   1. The Testing Agency shall verify the following.
      a. The specific manufacturer and model of anchors have been approved for the application by the Architect.
      b. The holes are drilled at the angle required and of the diameter and depth required.
      c. The holes are clean prior to installation of the anchors.
      d. The adhesive packaging indicates an expiration date and that the expiration date has not passed.
      e. The adhesive is mixed properly and that the initial portion of adhesive coming out of the nozzle is wasted, as required by the manufacturer.
      f. The anchors are installed according to the manufacturer's recommendations.
      g. The anchors are tested as outlined below and indicated on the drawings.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and dispose of leftover materials in accordance with requirements of local authorities having jurisdiction.

1.9 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Provide the following product, or approved equal with equivalent shear strength, tensile strength, and embedment requirements, as indicated by the ICC evaluation report.
   1. "HIT-RE 500-SD System," manufactured by HILTI, Inc. (ICC ESR-2322).

2.2 MATERIALS

A. Anchors: Threaded steel rods.
   1. Material: Stainless Steel per ASTM F 593 (316).
   2. Diameter: As indicated on drawings.
   3. Length: As indicated on drawings.

B. Anchor Bonding Adhesive: Two-Component Epoxy Adhesive
   1. Hilti HIT-RE 500-SD
   2. Approved equal complying with requirements of ICC ES AC308; independent agency certified; in addition to basic testing, show ability to withstand seismic forces.

C. Barrel Bolts: Flat Head Socket Drive
   1. Manufacturer: Accurate Manufactured Products Group, or approved equal.
   2. Material: As indicated on drawings.
   3. Diameter: As indicated on drawings.
   4. Length: As indicated on drawings.

D. Accessories and Tools: As recommended by adhesive manufacturer, including:
   1. Brushes for cleaning anchor holes.
   2. Dispensing tools.
   3. Oil-free compressed air.

PART 3 - EXECUTION

3.1 PREPARATION

A. Do not begin installation until conditions are such that anchors will not be disturbed before complete adhesive curing is complete.

B. Plan installation so that adhesive can be installed in optimum manner to achieve good bonding.

C. Ensure that anchors are free of grease, oil, dirt, and other foreign material.

D. Install in strict accordance with adhesive manufacturer's instructions and recommendations, following adhesive manufacturer's published structural design information.

3.2 INSTALLATION

A. Drill holes of proper diameter and depth, in accordance with adhesive manufacturer's published structural design information.

B. Blow out and brush holes per manufacturer's recommendations, removing dust and debris.

C. In Concrete:
   1. Using nozzle of appropriate size for hole, dispense adhesive into the hole, from bottom up, filling approximately five-eighths of the hole while withdrawing nozzle.
   2. Insert anchor into hole, to the bottom, while turning clockwise.

D. Do not disturb anchors until minimum cure time to loading has passed.

3.3 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 01400.
   1. Provide free access to operations at project site and cooperate with appointed firm.

B. The Testing Agency shall test the adhesive anchors as follows:
   1. Test one eighth of each application of adhesive anchors to the tensile proof load of 3500 pounds. Movement shall not exceed 0.010 inch.
   2. One application of anchors shall be defined as those anchors installed by a single crew in a single day.
   3. Test locations are random at the discretion of the testing lab, unless otherwise directed by the Architect.
   4. Should any anchor fail the tension test, it shall be replaced and retested, and all anchors in the same application shall be tested.

3.4 PROTECTION

A. Protect installed products until completion of project.

B. Replace damaged and defective anchors and anchors not adequately adhered.

END OF SECTION

SECTION 04060

MASONRY MORTARS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Drawings and provisions of the Contract, including the General and Supplementary Conditions, and Division 1 of these Specifications, apply to the work in this Section.

1.2 SUMMARY

A. This work shall consist of providing the necessary labor, materials, equipment and supervision to:
   1. Mix mortar for setting replaces granite panels.

1.3 RELATED SECTIONS

A. Work related to this Section includes, but is not limited to, the following:
   1. Section 04431 – Dimensional Stone Masonry Repair

1.4 REFERENCE STANDARDS

A. Titles, designations, dates of issue or revision of reference standards and documents shall be those in effect at the time bids are received, unless otherwise specified herein.

B. Except as modified by the Project Specifications, applicable portions of the following reference standards and documents shall govern the Work:
   1. ASTM C144-99 - Specifications for Aggregate for Masonry Mortar.
   2. ASTM C150-99a - Specifications for Portland Cement.
   3. ASTM C207-91 - Specifications for Hydrated Lime for Masonry Purposes.
   4. ASTM C270-07 - Specifications for Mortar for Unit Masonry.
   5. ASTM C780-96e1 - Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.
   6. Brick Institute of America (BIA), Technical Notes.
   7. Portland Cement Association – Plaster (Stucco) Manual.

1.5 SUBMITTALS

A. Submit the following in accordance with Section 01300:
   1. Manufacturer's Literature: Materials' description for all materials to be used for the Work.

2. Certifications: Prior to delivery, submit to the Owner and Project Architect/Engineer certificates attesting to compliance with the applicable Specifications referenced herein.
3. Mix Designs: Prior to delivery, submit proposed mix designs in compliance with the applicable Specifications referenced herein to the Owner and the Project Architect/Engineer for review and approval.
4. Test Reports: Submit test reports from approved independent laboratory for all code and regulatory agency-required tests and all special testing as specified herein.

1.6 QUALITY ASSURANCE

A. Qualifications
1. Contractor: Must have a minimum of five years of experience in construction and supervision of granite and marble restoration.
2. Masons: Must have a minimum of three years of experience in construction of granite and marble restoration.
3. Mixers: Must have a minimum of three years of experience in preparation of masonry mortar.

1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to the job site in manufacturer's sealed packaging and store unopened until required for use.

B. Store packaged materials above ground on platforms permitting air circulation under materials.

C. Cover all materials to protect from weather, moisture, and neglect.

D. Do not store materials in direct sunlight.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cementitious Materials
1. Portland Cement: ASTM C150, Type I; non-staining without air entrainment; low-alkali per ASTM C150, Table 2. Use white cement for pointing mortar only if required to match color of existing.
2. Hydrated Lime: ASTM C207, Type S, non air entrained.
3. Masonry cements, gypsum Portland cements, or blended cements will not be allowed.

B. Aggregates

1. Sand: ASTM C144 to match sand in original mortar in color and texture. Sand shall contain no more than 50 parts per million of chloride ions and shall be free of organic contaminants.
2. Coarse Aggregates: ASTM C404 with a maximum size of 1/2" diameter. Aggregate shall contain no more than 50 parts per million of chloride ions and shall be free of organic contaminants.

C. Admixtures
1. No calcium chloride or admixtures containing calcium chloride shall be used in the mortar.
2. No air-entraining admixtures or material containing air-entraining admixtures shall be used in mortar.
3. No antifreeze compounds or other substances shall be added to mortar.
4. No corrosion-promoting admixtures shall be used in the mortar.
5. No admixtures shall be used without written approval.

D. Water: Clean, potable, and free from deleterious amounts of acids, alkalis or organic materials.

E. Mortar for Filling Large or Reinforced Cavities
1. Use a masonry grout mixed in accordance with ASTM C476 and with a minimum compressive strength of 2500 psi. Maximum aggregate size shall be 1/2 in. diameter.
   a. Mix shall be designed by supplier after reviewing field conditions, intended use as indicated on drawings, and Contractor's proposed construction sequence.
   b. Contractor shall submit mix design to Owner and Project Engineer/Architect for approval.

PART 3 - EXECUTION

3.1 GENERAL

A. Control batching procedure to ensure proper proportions by measuring materials by volume. For each batch, measure cement and lime in bags. Do not use split sacks. Measure sand by weight or in calibrated containers, with allowance made for moisture content, bulking, and consolidation. Do not use shovel measurements.

B. Do not use frozen materials or materials mixed with or coated with ice or frost. When temperature of surrounding air is 40° F and falling take precautions to protect masonry materials from freezing. Comply with BIA Technical Notes on Brick Construction, No. 1A, Cold Weather Masonry Construction and Protection Recommendations.

C. Do not lower the freezing point by use of admixtures or antifreeze agents. Do not use calcium chloride in mortar or grout. Do not add air-entraining agents or other admixtures to mortar or grout.

D. Mix all cementitious materials, sand, and water thoroughly in a mechanical batch mixer using the minimum amount of water to produce a workable consistency.

E. Discard hardening mortar. Completely clean remaining mortar off a board or tub before adding fresh mortar.

F. Re-temper only as necessary for the required consistency. Add water to replace that which has evaporated.

G. All mortar and grout must be placed within 2 hours after initial mixing.

H. Test mortar and grout as required by the building code according to their requirements and the referenced standards specified herein.

3.2 CLEAN-UP

A. At the conclusion of masonry work, remove all equipment and surplus material used for mixing mortar, clean up all debris.

END OF SECTION

SECTION 04431

DIMENSIONAL STONE MASONRY REPAIR

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. The Work will include the following items:
1. Install adhesive anchors at black granite panels at floors 3 through 14, as outlined in Division 04 Section "Adhesive Anchors."
2. Remove and replace granite panels that are cracked through the full length of the panel or through the existing supplemental anchor.
3. Remove and replace sealant at filled spalls at granite panels.
4. Remove all loose spalls at granite panels and patch with Dutchman.
5. Remove all loose spalls at marble panels and patch with Dutchman.

1.3 RELATED SECTIONS

A. Work related to this Section includes, but is not limited to, the following:
1. Section 02070 – Selective Demolition
2. Section 03931 – Adhesive Anchors
3. Section 07900 – Joint Sealants

1.4 INTENT

A. The intent of this work is to extend the useful life of the building by repairing or replacing damaged pieces of stone, using durable, proven techniques of masonry repair, visually blending new work in with the existing.

1.5 QUALITY ASSURANCE

A. Contractor: Must have a minimum of five years experience in construction and supervision of granite and marble restoration.

B. Masons: Must have a minimum of three years experience in granite and marble restoration, and be certified to install the materials and methods specified.

1. One skilled journeyman mason: must be trained and certified by the specified crack repair system manufacturer, and be present at all times during masonry restoration and personally direct that portion of the work.

C. Except as modified by the project specifications, cited reference standards or applicable portions thereof shall govern the work.

1.6 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Submit manufacturer's specification and other product data for each manufactured product including instructions for storage, handling, and use and MSDS sheets.

C. Submit a list of similar projects completed in the past five years.

1.7 SAMPLES

A. Submit the following samples in time to allow for review by the Engineer and re-submittals, if needed, without delaying the work. Do not order materials or start work without first receiving the Owner's written approval.
1. One sample of each type and color of stone to be used at Dutchman cut stone repairs.
2. One sample of color-matched cured epoxy for each the white granite, black granite, and marble panels.

1.8 MOCK-UP

A. Prior to general granite restoration, prepare a sample area, or areas, selected by the Engineer demonstrating methods and workmanship for three examples of each of the following repairs, for the Engineer's review and approval:
1. Installation of adhesive anchors.
2. Sealant spall repair.
3. Granite Dutchman repair.
4. Marble Dutchman repair.

1.9 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to site in manufacturer's original and unopened containers and packaging, bearing labels as to type and names of products and manufacturers.

B. Protect materials during storage and construction. Keep containers tightly closed and away from open flames. Protect liquid components from freezing. Comply with manufacturer's recommendations for minimum and maximum temperature requirements for storage.

1.10 ENVIRONMENTAL CONDITIONS

A. Comply with all applicable safety codes and regulations that govern the work, including OSHA and EPA regulations covering waste water disposal, VOC regulations, and governing air quality management district.

B. Do not apply granite or marble Dutchman repair materials unless materials and ambient temperature is between 50°F and 90°F and will remain so for at least 48 hours following patching.

C. Do not apply granite or marble Dutchman repair materials if rain is imminent.

D. In hot and/or windy weather above 90°F, schedule Dutchman repair placement to coincide with hours in which the patches will be in shade or during cooler morning hours.

1.11 ALLOWANCES

A. Quantity allowances for stone masonry repairs are specified Division 1 Section "Allowances."
   1. Perform granite stone repair work included in quantity allowances.
   2. Perform marble stone repair work included in quantity allowances.
   3. Perform work that exceeds quantity allowances per Unit Prices only as authorized by Change Orders and as defined in this Section.

1.12 UNIT PRICES

A. Unite prices for granite and marble stone masonry unit repair are specified in Division 1 Section "Unit Prices."
   1. Unit prices apply to authorized work covered by quantity allowances.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Epoxy Adhesive: A two-component exterior grade epoxy adhesive Bonstone Match/B-431, color to match existing granite by Bonstone Materials Corporation, Mukwonago, WI 53149.

B. Water: Potable

C. Remedial Anchors: Where required to reinforce Dutchman repairs, use Dur-O-Pair adhesive anchors by Dur-O-Wal, Inc., Arlington Heights, IL, consisting of the following:
   1. Threaded Rod: Dur-O-Pair AISI 304 Stainless Steel, in diameters and lengths selected by the Engineer to fit individual situations, complying with ASTM F593.

2. Epoxy for Injection: Dur-O-Pair low odor, two-part 100% epoxy, supplied in tubes with 1/2 in. diameter static mixing heads with minimum 24 "mixing elements," and extension tubes of 0.26 in. and 0.18 in. outside diameter.

D. Stone for Dutchman Repairs: Use original stone piece, if available. If original stone piece is not available, match granite with in-kind replacement.

E. Adhesive Anchors: see Division 3 Section "Adhesive Anchors."

F. Anti-Corrosion Coating: Sika Armatec 110 EpoCem, by Sika Corporation.
1. 28-day Compressive Strength: 8,500 psi; ASTM C-109.
2. 28-day Flexural Strength: 1,250 psi; ASTM C-348.
3. 28-day Splitting Tensile Strength: 600 psi; ASTM C-496.
4. Water Permeability at 10 bar (145 psi): 8.92 x 10-15 ft/sec.
5. Reduction of corrosion rate: 40% minimum.

PART 3 - EXECUTION

3.1 GENERAL

A. The work is intended to include all areas as may be reasonably inferred from the drawings and as referenced by the specifications whether or not specifically shown on the drawings.

3.2 SELECTIVE DEMOLITION

A. Remove materials as specified in Division 2 Section "Selective Demolition"

B. Remove spalls and cracks in granite and marble panels that will be repaired with Dutchman patches using cut stone.

C. Remove all other foreign materials such as patching compounds and sealants, from the areas to be patched.

D. Any adjacent granite or marble damaged during the removal process shall be repaired with Dutchman repair materials and coating, as appropriate and as determined by the Engineer and specified in this Section, at no additional cost to the Owner.

3.3 SURFACE PREPARATION

A. Prior to beginning repairs, verify substrate is in an acceptable condition for repair technique.

B. Remove all loose particles and deleterious materials from the exposed spall, and clean any exposed steel anchors or clips by wire brushing. Clean metal to SSPC-6, commercial blast finish, or better.

C. Exposed steel anchors or clips within the substrate should be high-pressure washed and mechanically cleaned to shiny metal. Prime with Anti-Corrosion Coating in accordance with manufacturer's written instructions before applying spall repair. Refer to manufacturer's literature for maximum open times.

3.4 PANEL REPLACEMENT

A. When the granite panels are cracked through the existing supplemental anchor or through the full length of the panel, remove the panel.

B. Remove the stainless steel clips and shelf anchors, and replace in kind. Remove and replace the mortar bed as specified in Division 4 Section "Masonry Mortars."

C. Install a new granite panel. Drill holes through the panel for the existing supplemental anchors and install the additional adhesive anchors as specified in Division 3 Section "Adhesive Anchors."

3.5 ADHESIVE ANCHORS

A. Install adhesive anchors, as specified in Division 3 Section "Adhesive Anchors," at all black granite panels located on floors three through fourteen.

B. Any granite damaged during the installation of anchors shall be repaired or replaced as determined by the Engineer, at no additional cost to the Owner.

3.6 SEALANT PATCH

A. When the original piece is no longer available and a sealant patch is installed at the spall, remove the existing sealant. Touch grind broken surfaces as required to remove all existing sealant residue.

B. Install sealant at removed spall when replacing sealant at panel joint.

C. Limit repairs to spalls no larger than 1/2 in. by 2 in. Consult with the Engineer prior to proceeding with repairs to determine the appropriate repair method for spalls larger than the specified size.

3.7 DUTCHMAN USING ORIGINAL PIECES

A. When the original broken pieces are available, re-attach them in place using epoxy adhesive, as directed by the Engineer.

B. For pieces greater than 25 sq in., provide Dutchman patch using cut stone as specified below.

C. Clean broken surfaces. Match the broken faces together. Spread a thin layer of epoxy adhesive on the surfaces to be attached, using a minimal amount of adhesive to avoid squeeze-out.

D. Press the broken pieces together and hold until initial set of the epoxy, approximately 15 minutes. After initial set, remove excess adhesive carefully so as not to scratch the granite.

E. Allow the epoxy to cure fully for 24 hours before final filling and patching.

3.8 DUTCHMAN USING CUT STONE

A. When the spalls occur at panel corners, are larger than 25 sq. in., or the original broken pieces of stone are no longer available, cut a new piece of stone to fill out the piece.

B. Scribe a rectangle around the chipped area, and square the chipped area into a rectangular slot. For spalls at panel corners, scribe a triangle around the chipped area and through the entire thickness of the panel. Cut a new piece of repair stone to similar color and texture to slightly full dimensions, so that it will stand slightly proud of the surface of the adjacent stone when inserted. Stone salvaged from elsewhere in the building may be used for Dutchman repairs. Test fit the repair stone to be sure it fits snugly into the rectangular or triangular slot with less than 1/16 in. wide joints.

C. Butter all contact surfaces of the repair stone and the slot with epoxy. Press the fitted repair stone into the slot. Without waiting for the epoxy to set, grind or sand the excess repair stone flush with adjacent surfaces. Do not over-grind or mar the surface of the adjacent stone. Use sufficiently fine abrasive to remove sanding or other tooling marks created by the repair.

3.9 REMEDIAL ANCHORS WITH DUTCHMAN USING CUT STONE

A. When installing the cut pieces at locations larger than 25 sq. in. or at corner spalls, the Engineer requires remedial anchors to reinforce the connection. Consult with the Engineer to determine the locations, diameters, and lengths of remedial anchors to be used when installing individual pieces of stone.

B. Measure and mark the location for remedial anchors on both of the pieces of stone to be joined, before drilling. Drill holes through both pieces as directed. Holes shall be 1/16 in. larger in diameter than the anchor to be used, i.e., 3/16 in. diameter holes for 1/8 in. diameter anchors.

C. Clean holes of all dust and debris using compressed air and a stiff, cylindrical nylon bristle brush of sufficient length to clean the full depth of the hole in the base material. Alternate application of compressed air and brush cleaning, until neither operation produces any dust. Do not use metal wire brushes to clean holes.

D. Load the two-part epoxy cartridge into a double barrel caulking gun. Remove cap on the cartridge and verify that the two components of the epoxy have not been contaminated at the end of the tube. Discard any cartridge with hardened, partially hardened, or partially mixed epoxy. Attach static mixing head to the tip of epoxy cartridge, using nut supplied by the manufacturer. Pump epoxy into waste container until both components are fully mixed and epoxy is a uniform color, i.e., not "marbled". Pump additional epoxy from two more full squeezes of the gun to assure complete mixing at the tip.

E. Pre-fill the holes with a sufficient amount of epoxy to fill completely around the anchor without producing excessive squeeze-out. Gently push the threaded rod into one stone until it is completely embedded in epoxy. Press the fitted repair stone into the slot and anchor.

3.10 CLEAN-UP

A. Clean work areas daily, leaving in broom clean condition. Remove patch materials from any adjacent surface promptly.

B. Upon completion of work, thoroughly clean work areas.

END OF SECTION

SECTION 07200

SELF-ADHERED FLASHING

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Base Scope of Work:
   1. Provide building underlayment at all areas where sheet metal copings are replaced.

B. Work related to this Section includes, but is not limited to, the following:
   1. Section 07620 – Sheet Metal Flashing and Trim
   2. Section 07900 – Joint Sealants

1.3 STANDARDS

A. The following standards are incorporated into these Specifications. Unless noted otherwise, comply with the current version of these standards.
   1. American Society of Testing and Materials (ASTM): as referenced.
   2. California State Building Code – Current Edition, with all applicable local amendments.

1.4 PERFORMANCE REQUIREMENTS

A. Membrane system shall provide a watertight barrier to prevent passage of water into the building.

B. Membrane shall seal around penetrating fasteners and meet the strictest requirements of ASTM D1970.

1.5 SUBMITTALS

A. Provide the following submittals per Section 01300:
   1. Product Data: For each specified material, submit information on the component materials, application details, recommendations for application and use, and test data substantiating that products comply with contract requirements.
   2. MSDS sheets for all materials, cleaners, and solvents used.

3. Samples of all materials specified, manufacturer's product data, and installation details and recommendations, each properly labeled.
4. Sample of wall waterproofing manufacturer's warranty, as specified herein, prior to beginning work. Provide executed warranty upon project closeout.

1.6 QUALITY REQUIREMENTS

A. Engage experienced personnel to perform work of this Section. The Contractor shall have completed work similar in material, design, and extent to that indicated for this Project with a record of successful in-service performance, for a period of at least five years.

B. Obtain each type of material comprising the wall waterproofing system from a single manufacturer for the duration of the project.

C. Provide effective, full-time quality control over all fabrication and installation activities. Full responsibility for quality control shall remain with the Contractor.

D. Perform inspections to ensure strict conformance to the Contract at all phases of construction. Inspect components for proper alignment and placement, attachment, workmanship, and damage. Inspect the work prior to covering any part of the work of this Section, or releasing for subsequent work by other trades.

1.7 PROJECT CONDITIONS

A. Comply with Division 1 Specification Sections and published, approved manufacturer's recommendations.

1.8 GUARANTEE/WARRANTY

A. Guarantee all work under this Section in a document stating that:
1. If, within two years after the Date of Substantial Completion of the Work, any of the work of this Section is found to be defective or not in accordance with the Contract Documents, the Contractor shall, at its sole cost and expense, correct it promptly after receipt of a written notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition.

B. Provide five-year manufacturers' material warranties for the self-adhered flashing membrane.

1.9 PRECONSTRUCTION CONFERENCE

A. Attend a preconstruction conference to be held with the Owner, Engineer, Property Manager, and all other involved trades to discuss and coordinate the Work covered under this Section.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Acceptable manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Grace Construction Products
   2. Approved Equal

2.2 MATERIALS

A. Components listed below are for the Grace Ultra system by Grace Construction Products. Similar systems and components by manufacturers listed above, meeting the requirements and intent of this Specification as determined by the Engineer, may be submitted for review and approval prior to Bid. Roof waterproofing flashing system by W.R Grace:
   1. Flashing: Grace Ultra 0.030 in. thick, self-adhering butyl membrane with integrally bonded polyethylene laminate.
   2. Primer: As required by the manufacturer.

B. Liquid Membrane: Liquid Membrane by W.R. Grace.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify all site conditions and dimensions by field measurement in consideration of the special conditions associated with repairs to existing construction prior to development of submittals and to material fabrication, purchase or delivery. Notify the Engineer immediately of any inconsistency between the conditions found and those shown in the Drawings.

B. Before starting work in a given area, examine all surfaces to receive waterproofing membrane for roughness, ridges, contaminants, unsound substrates or other conditions that may impair the installation. Promptly report any such conditions to the Engineer. Correct all defective conditions before commencing work.

3.2 SELF-ADHERED FLASHING INSTALLATION

A. Follow all manufacturers' recommendations, except as modified herein. Ensure that surfaces to receive primer and membrane are clean and dry.

B. Fully and completely adhere membrane to the primed substrate using a neoprene roller. Wrinkles, open laps, blisters, perforations or fish mouths in the membrane are not acceptable. Promptly repair defects in the membrane. Do not allow membrane installation defects to be concealed by work of other Sections.

C. Ensure all membrane material is continuously supported.

D. Configure membrane flashings to maintain laps to shed water; shingle flashings over onto metal flashings. Provide minimum 6 in. lap onto face of adjacent sheathing or waterproofing unless detailed otherwise. Avoid using reverse laps. Seal damaged areas with liquid membrane.

3.3 PATCHING

A. Promptly repair all rips, tears, or holes in the membrane, using precut sheets of membrane that extend 6 in. beyond the damaged area in all directions.

B. Extend patch sheets vertically and fit snugly against the lower edge of the membrane above to avoid creating backwater laps in the membrane.

END OF SECTION

SECTION 07620

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. The work of this Section Includes:
   1. Parapet Coping.
   2. Coping Saddles.
   3. Column Caps.

1.3 RELATED SECTIONS

A. Work related to this Section includes, but is not limited to, the following:
   1. Section 02070 – Selective Demolition
   2. Section 07200 – Self-Adhered Flashing
   3. Section 07900 – Joint Sealants

1.4 STANDARDS

A. The following standards are incorporated into these Specifications. Unless noted otherwise, comply with the current version of these standards.
   1. Sheet Metal and Air Conditioning Contractor's National Association (SMACNA): Architectural Sheet Metal Manual.
   2. Factory Mutual Loss Prevention Data Sheet 1-49: Perimeter Flashing.
   3. ANSI/ASTM B32 — Solder Metal
   4. ASTM B209 — Aluminum and Aluminum Alloy Sheet and Plate.
   5. FS O-F-506 — Flux, Soldering, Paste and Liquid.
   6. FS QQ-S-571 — Solder, Tin Alloy.
   7. American Society of Testing and Materials (ASTM): as referenced.
   8. California State Building Code – 2007 Edition, with all applicable local amendments.

1.5 SUBMITTALS

A. Provide the following submittals per Section 01300:

1. Shop Drawings: Provide complete Shop Drawings for each assembly and fabrication required for the project, showing exact profile, lengths, and locations of joints, terminations, and methods of attachment. Coordinate Shop Drawings with all relevant work of other trades specified in other Sections.
2. Product Data: For each specified material, submit information on the component materials, application details, recommendations for application and use, and test data substantiating that products comply with contract requirements.
3. MSDS sheets for all materials, cleaners, and solvents used.
4. Samples: Provide samples of the following:
   a. All materials specified in Part 2 that will become part of the final assembly.
   b. Manufacturer's standard color samples for paint color selection.
   c. Samples made to the exact profiles to be used for the project, 6 in. minimum in length.
5. Certifications that metal coating systems comply with the specified standards.

1.6 QUALITY REQUIREMENTS

A. Engage experienced sheet metal personnel to perform work of this Section. The Contractor shall have completed work similar in material, design, and extent to that indicated for this project with a record of successful in-service performance for a period of at least five years.

B. Obtain each type of material from a single manufacturer for the duration of the project.

C. Provide effective full-time quality control over all fabrication and installation activities. Full responsibility for quality control shall remain with the Contractor.

D. Perform inspections to ensure strict conformance to the Contract and approved Shop Drawings at all phases of construction. Inspect components for proper alignment and placement, attachment, workmanship, and damage. Inspect the work prior to covering any part of the work of this Section or releasing for subsequent work by other trades.

1.7 GUARANTEE/WARRANTY

A. Guarantee all work under this Section in a document stating that:
   1. If, within two years after the Date of Substantial Completion of the Work, any of the work of this Section is found to be defective or not in accordance with the Contract Documents, the Contractor shall, at its sole cost and expense, correct it promptly after receipt of a written notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition.

1.8 PROJECT CONDITIONS

A. Coordinate Work of this Section with interfacing and adjoining Work for proper sequencing of each installation. Ensure best possible weather resistance, durability of

Work, protection of materials and finishes, and comply with published, approved manufacturer's recommendations.

1.9 PRECONSTRUCTION CONFERENCE

A. Attend a preconstruction conference to be held with the Construction Manager, Engineer, Property Manager, and all other involved trades to discuss and coordinate the Work covered under this Section.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Flashing: 24 Gauge Galvanized Steel with G90 Zinc Coating: ASTM A525.
   1. Solder: ANSI/ASTM B32; 60/40 tin/lead type.
   2. Flux: FS O F 506.

B. Fasteners
   1. Wood blocking-to-concrete: 3/8 in. diameter expansion anchors by Rawl in lengths as required to provide a 2 inch minimum embedment.
   2. Galvanized sheet metal screws: No. 6 Tek® screws, 1 1/2 in. in length. Provide bonded neoprene washers at exposed fasteners.
   3. Plywood-to-wood blocking: No. 6 Tek® screws in length to sufficiently engage wood blocking.

C. Receivers and cleats shall be the same temper and thickness as the base metal, unless otherwise specified.

D. Self-Adhered Flashing: Complying with requirement for self adhered flashing Division 7 Section "Self-Adhered Flashing"

E. Bond Breaker: Adhesive-backed polyethylene tape, 6-mil thick.

F. Sealant: Complying with requirements for joint sealants as specified in Division 7 Section "Joint Sealants."

2.2 AUXILLARY MATERIALS

A. Wood Blocking: Fire Treated DF No. 1 or better.

B. Plywood: Fire Treated 5-ply 1/2 in. thickness.

2.3 FABRICATION

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.

B. Form pieces in longest practical lengths.

C. Hem exposed edges on underside 1/2 inch; miter and seam corners.

D. Mechanically fasten and solder (or weld) all joints, splices, and transitions.
   1. Fasten metal for strength by solid riveting, welding, or forming double lock seams.
   2. Seal for water tightness by soldering; after soldering, immediately remove all traces of acid or flux with an appropriate neutralizer, followed by repeated washing and scrubbing.
   3. Sealant filled joints may not be substituted for soldered joints: Use sealant where and as indicated on Drawings, and as specified herein.

E. Fabricate corners, transitions and terminations as a single unit.

F. Form edge metal in either 8 or 10 foot sections; lengths shorter than 8 feet may be used at end of runs, with a minimum of 2 feet.

G. Fabricate vertical faces with bottom edge formed outward 1/4 inch to 1/2 inch and hemmed to form drip.

PART 3 - EXECUTION

3.1 INSPECTION

A. Beginning of installation means acceptance of existing conditions.

3.2 PREPARATION

A. Field measure site conditions prior to fabricating work.

B. Allow wet substrates to dry thoroughly; clean debris from all substrates.

C. Apply self-adhered flashing as shown in the Drawings.

3.3 INSTALLATION

A. General
   1. Manufactured products: Comply with manufacturer's written instructions except as modified herein.
   2. Proceed with sheet metal installation in conjunction with waterproofing and flashing in each area.
   3. Do not dilute primers, coatings, or sealants
   4. Keep containers closed except when removing materials from them.
   5. Field fabricate sheet metal following the same criteria set forth in Paragraph 2.3, FABRICATION, above.

B. Except as otherwise specifically shown on Drawings or approved shop drawings, conform to drawing details included in SMACNA manual.

C. Secure flashings in place using concealed fasteners, unless otherwise specified.

D. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles. Lap joints for continuous contact. Exposed lap joints to the weather with gaps equal to or greater than the thickness of the sheet metal shall be subject to replacement.

E. Mechanically fasten and solder (or weld) metal joints not intended for expansion watertight for full metal surface contact. After soldering, wash metal clean with neutralizing solution, rinse with water and wipe dry.

END OF SECTION

Section 07900

JOINT SEALANTS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Preparing sealant substrate surfaces.

B. Sealant and backing for the following applications:
1. Stone masonry wall cladding joints.
2. Ebonized spandrel joints.
3. Joints between masonry wall cladding and roof coping.
4. Continuous vertical mullion joints.
5. Window frame joints.
6. Window glazing to metal frame.
7. Joints between materials listed above.

1.3 RELATED SECTIONS

A. Work related to the Section includes, but is not limited to, the following:
1. Section 02070 – Selective Demolition
2. Section 04431 – Dimensional Stone Masonry Repair
3. Section 07620 – Sheet Metal Flashing and Trim

1.4 REFERENCES

A. American Society for Testing and Materials, ASTM.

B. ANSI/ASTM D1056 — Flexible Cellular Materials — Sponge or Expanded Rubber.

C. ANSI/ASTM D1565 — Flexible Cellular Materials — Vinyl Polymers and Copolymers.

D. FS TT-S-00230 — Sealing Compound: Elastomeric Type, Single Component.

E. SWI (Sealing and Waterproofer's Institute) — Sealant and Caulking Guide Specification.

1.5 SUBMITTALS

A. Product data and samples, for each type and color of joint sealant.

B. Product test reports, from an independent qualified testing agency, for compliance with:
   1. Testing in accordance with ASTM C719 and ASTM C920 using building substrates and production run materials for this project and application procedures in this specification.

C. Submit manufacturer's installation instructions.

D. Job site mock-up:
   1. Incorporate the work specified in this Section.
   2. Rebuild the mock-up as many times as required to meet the Engineer's approval.
   3. Schedule the mock-up installation to leave adequate time for sealant cure, testing and reconstruction, if needed, without delay of the project.
   4. Coordinate mock-up construction with other trades.
   5. Approved mock-up will become part of the finished work and serve as a standard of acceptability for the remaining work

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer, approved by the sealant manufacturer, who has specialized in installing joint sealants similar in material, design and extent to those indicated for this Project and whose work has resulted in joint-sealant installations with minimum 5 years record of successful in-service performance.

B. Testing and Inspection
   1. Sealant Adhesion Field Tests
      a. Prior to start of sealant application, construct a mock-up using specified surface preparation and sealant installation on granite and marble stone masonry.
      b. Notify Engineer at least 48 hours prior to start of installation and testing so he can be present.
   2. Procedure for Sealant Adhesion Field Test
      a. Construct three 10 in.-long x 1 in.-wide x 1/4 in.-thick strips of sealant over each substrate. Apply bond breaker tape to the substrate under the last 2 in. of the sealant at each end of the strips to provide a tab for peel testing.
      b. For all existing materials, cure the samples 21 days at min. temperature of 50° F.
      c. After curing grasp strip sample end tabs and pull 90 degrees to the surface.
      d. Acceptable application, cohesive failure (tearing within itself) with no adhesive (debonding) failure.
      e. If sample debonds, the sealant manufacturer shall make written recommendations regarding changes in surface preparations or primers. Submit recommendations to the Engineer for approval.
      f. Repeat sealant adhesion trials as required to produce an acceptable application.
   3. Sealant Manufacturer

a. Observe mock-up construction and testing.
b. Observe initial day of sealant installation.
c. Visit site and observe work at least once every two weeks.
d. Issue a written report recording surface preparation procedures, sealant application procedures, and stating the work conforms to the manufacturer's recommendations and these specifications. Note departures from these requirements and recommendations for necessary corrective actions.

4. Owner reserves the right to perform water testing of any area that has been repaired.
5. Test joint backings and release tapes for compatibility.

1.7 DELIVERY, STORAGE AND HANDLING

A. All materials are to be of recent manufacture and delivered to the job site in original unopened containers with the manufacturer's name, number, batch identification and date of production.

B. Do not use materials whose shelf life has expired.

C. Remove from the job site any materials or incomplete waterproofing work exposed to moisture or rejected by the Engineer.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

B. Store all materials between 40°F and 80°F; if exposed to lower temperatures, restore to proper temperatures before use.

C. Do not proceed with installation of joint sealants under the following conditions:
1. When ambient and substratre temperature conditions are outside limits permitted by manufacturer or are below 40°F or over 95°F.
2. When joint substrates are damp, or humidity conditions are outside limits permitted by sealant manufacturer.
3. If inclement weather is forecast within 36 hours.

1.9 SEQUENCING AND SCHEDULING

A. Coordinate the work of this Section with all Sections referencing this Section.

B. Attend preconstruction conference to discuss the work and coordinate with other trades.

1.10 WARRANTY

A. Manufacturer's warranty: Written warranty, signed by manufacturer, agreeing to furnish joint sealants and accessories to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period. Include coverage of installed sealants and accessories that fail to achieve airtight and watertight seal, exhibit loss of adhesion or cohesion, or do not cure.
   1. Warranty period: 20 years from date of Substantial Completion.

B. Contractor's warranty: Written warranty, signed by Installer, agreeing to repair or replace sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
   1. Warranty period: 5 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another, with sealant and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.

2.2 SEALANTS

A. Products
   1. Building Joints:
      a. SilPruf® NB by GE Momentive.
   2. Wet Seal at Windows:
      a. SilPruf® NB by GE Momentive.

B. Colors, to be approved by Owner.

C. Acceptable alternate: Equivalent Dow Corning Silicone Sealant.

2.3 PREFORMED SILICONE-SEALANT SYSTEM

A. Products
   1. Extruded Tape at Vertical Mullion Joints:
      a. UltraSpan by GE Momentive

B. Colors, to be approved by Engineer.

C. Acceptable Alternate: Equivalent Dow Corning Preformed Silicone-Sealant System.

2.4 ACCESSORIES

A. Primer: Non-staining type, recommended by sealant manufacturer for each different substrate.

B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer for each different substrate.

C. Bond Breaker Tape: Pressure-sensitive polyethylene, adhesive-backed, 0.006 in. thick tape, in widths required, recommended by sealant manufacturer to suit application and compatible with joint sealants.

D. Backer Rod: Closed-cell, non-gassing, polyethylene foam, 30 to 50 percent larger than joint width.

E. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants for compliance with requirements for joint configuration, installation tolerances and other conditions affecting joint-sealant performance.

B. Verify site conditions and field dimensions by field measurement. Notify the Engineer immediately of any inconsistency between existing conditions and the specifications. The Engineer will determine what modifications or additional repairs are necessary.

C. Examine all surfaces to receive sealant for roughness, contaminants, or other conditions that will impair the sealant application. Inform the Engineer in writing of such conditions. Do not commence work until all defects are remedied.

D. Beginning installation means installer accepts existing substrate.

3.2 PREPARATION

A. All surfaces must be clean and dry before preparation begins.

B. Remove all foreign material from joint substrates, including dust, oil, and grease.

C. If a 1/4 in. joint width does not exist at dimensional stone masonry joints, grind out or saw-cut edges of masonry to provide the 1/4 in. (minimum) joint width dimension.

D. Prior to applying primer and installing backer rod, clean the substrate.

E. Clean porous joint substrate surfaces such as concrete by brushing, grinding, mechanical abrading or a combination of these methods to produce a clean, sound

substrate. Remove loose particles remaining from cleaning operations by vacuuming or blowing out joints with oil-free compressed air. Use non-metallic brushes or grinding blade.

F. Clean nonporous surfaces such as aluminum with chemical, non-staining cleaners.
   1. Use two clean, white, soft, lint-free cotton cloths and clean, fresh joint cleaner as required to clean the different substrates.
      a. Wet one cloth with cleaner and wipe the surface vigorously. Use second cloth to clean the surface before solvent evaporates. Continue two-cloth procedure until surface does not discolor cloth. Repeat once more.
      b. Do not dip cloth into solvent to avoid contamination of solvent. Pump solvent on to first cloth.
      c. Do not solvent clean at temperatures below 40° F.
      d. Dispose of cloths and chemical containers daily.

3.3 INSTALLATION

A. Primer
   1. Mask all surfaces, do not allow primer on exposed surfaces.
   2. Pour primer in clean container for use. Do not pour more than a 10-minute supply into container.
   3. Replace cap on primer immediately, remove any thickened or degraded primer from site.
   4. Apply primer with a clean brush to clean and dry substrates. Prime all surfaces to receive sealants. Use only one coat of primer.
   5. Allow primer to dry as required by manufacturer's specifications.
   6. Do not allow primer to become wet or dirty before sealant application.

B. Backer Rod
   1. Install clean, dry backer rod into joint openings against dry substrates. Use specialized tool to accurately set depth of rod. Account for concave tooling of joints.
   2. Place the rod so the sealant depth measured at the center of the joint after tooling is one-half of the sealant joint width.
      a. Minimum depth: 1/4 in.
      b. Maximum depth: 1/2 in.
   3. Change rod sizes in accordance with the schedule, as required by variation in joint widths.
   4. Butt ends together, do not twist rods together.
   5. Do not touch or otherwise contaminate substrate surfaces while inserting backer rod.
   6. Do not rupture skin of backer rod; remove any rod containing punctures.
   7. Install only as much backer rod as can be sealed in the same day.

C. Bond Breaker Tape
   1. Install bond breaker tape at locations as detailed against dry substrates.
   2. Install only as much bond breaker tape as can be sealed in the same day.

D. Sealant

1. Apply sealant only to clean, dry, primed surfaces at ambient temperatures above 40° F.
2. Seal joints within 10 hours of primer application.
3. Inspect sealant cartridge and verify the production date is within 6 months of the date of application. Remove from site all sealant more than 6 months old.
4. Verify correct backer rod or bond breaker tape positioning before applying sealant.
5. Follow manufacturer's recommendations for proper joint geometry.
6. Fill all joints solidly and continuously with sealant, neatly applied with standard caulking gun in a continuous motion using a slight pressure. "Push" the sealant bead ahead of the nozzle. Do not drag the nozzle.
7. Tool joint surface within 5 minutes of sealant application and before skin develops on sealant. Use a concave tool to insure intimate contact with the substrate and eliminate air bubbles. Do not use fingers to tool sealants. Avoid 3-sided adhesion at all sealant joints.
8. Do not use chemicals, soaps, water, waxes or any liquids on tooling equipment or for tooling. Provide a smooth, uniform finished surface. Provide flush joint configuration for fillet seals and concave joint configuration for all other seals, unless otherwise indicated, per ASTM C 1193.
9. Sequence work to prevent contamination of fresh sealant by dust or other debris.

E. Preformed Silicone-Sealant Systems
1. Apply masking tape to each side of joint, outside of area to be covered by sealant system.
2. Apply a bead of silicone sealant to each side of joint to produce a bead of size complying with preformed silicone-sealant system manufacturer's printed schedule and covering a bonded area of not less than 3/8 inch. Hold edge of sealant bead inside of masking tape by 1/4 inch. Apply sealant bed where indicated.
3. Within 10 minutes of sealant application, press silicone extrusion or molded pieces into sealant to wet extrusion and substrate. Use a roller to apply consistent pressure and uniform contact between sealant and both extrusion and substrate. Install fillet bead of sealant along edges of extrusions and molded pieces.
4. Complete installation of horizontal joints before installing vertical joints. Lap vertical joints over horizontal joints. At end of joints, cut silicone extrusion with a razor knife, or sharp scissors.

F. Wet Seal
1. Cut gasket flush with surface of window frame using approved cutting jig. Do not allow cutting blade to contact glass.
2. Prepare metal and surfaces per Section 3.2.
3. Apply sealant and tool surface within 5 minutes of sealant application and before skin develops on sealant. Use a concave tool to ensure intimate contact with the substrate and eliminate air bubbles. Provide 1/4 in. (minimum) bond to glass and metal surfaces.
4. Do not use any liquid for tooling. Provide a smooth, uniform finished surface and straight lines on the glass surface.

3.4 CLEANING

A. Clean off excess sealants or sealant smears adjacent to joints as the work progresses by methods approved in writing by manufacturers.

3.5 PROTECTION OF FINISHED WORK

A. Protect joints sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes, so that sealants are without deterioration or damage at time of Substantial Completion. If damage occurs, cut out and remove damaged or deteriorated joint sealants immediately and repair so installations are indistinguishable from the original work.

END OF SECTION

SECTION 09900

PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes:
   1. Painting of galvanized sheet metal accessories.

1.3 RELATED SECTIONS

A. Work related to this Section includes, but is not limited to, the following:
   1. Section 07620 – Sheet Metal Flashing and Trim
   2. Section 07900 – Joint Sealants

1.4 REFERENCES

A. ASTM D16 — Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products.

B. PDCA (Painting and Decorating Contractors of America) — Painting — Architectural Specifications Manual.

C. SSPC (Steel Structures Painting Council).

1.5 SUBMITTALS

A. Comply with provisions of Division 1 Section "Submittals".

B. Product Data: Provide data on all finishing products.

C. Samples: Submit 3 brushout samples of the color selected by Engineer.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum 5 years documented experience.

B. Applicator: Company specializing in performing the work of this section with minimum 5 years documented experience.

1.7 REGULATORY REQUIREMENTS

A. All materials shall comply with local area air district regulations. (Bay Area Air Quality Management District – BAAQMD).

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site, store, protect, and handle under provisions of Section 01600.

B. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

C. Include on container label: Manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

D. Store paint materials at minimum ambient temperature of 45° F and a maximum of 90° F, in ventilated area, and as required by manufacturer's instruction.

1.9 ENVIRONMENTAL REQUIREMENTS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.

C. Provide minimum lighting level of 80 foot candles measured mid-height at substrate surface.

D. Do not apply products when inclement weather is expected within 24 hours, unless substrates are completely protected.

1.10 EXTRA MATERIALS

A. Furnish under provisions of Section 01700.

B. Provide two gallons of each paint type to the Owner.

C. Label each container with color, type, and texture, in addition to the manufacturer's label.

1.11 MOCK-UP

A. Construct a mock-up before proceeding with the Work. The location of the mock-up will be selected by the Engineer.

B. Do not proceed with the work until the mock-up is approved by the Engineer. Continue mock-ups until approved by Engineer.

C. Mock-up will be used as the standard for the remaining work. Use identical techniques, materials, and workmanship to provide consistency throughout the project.

1.12 QUALITY CONTROL

A. Manufacturer will perform tape adhesion tests on the coating after application to ensure proper bond of coating to substrate. If inspection shows that proper adhesion or specified dry film thickness has not been achieved, Contractor shall perform corrective work to the satisfaction of the Manufacturer and Engineer and at no extra cost to the Owner.

1.13 WARRANTY

A. Provide a manufacturer's warranty stating that the coatings shall not chalk, peel, fade or blister within one year.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Paint for Miscellaneous sheet metal items:
1. Paint Primer: Pitt-Guard® All Weather DTR Epoxy 97-948 Series, by PPG.
2. Paint: Pitthane® Ultra Gloss Urethan Enamels 95-812 Series, by PPG.
3. Color: To be selected by Engineer from manufacturer's standard range of colors.

2.2 ACCESSORIES

A. Chemical Treatment: Galvaprep 5 by Henkel.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that all sheet metal work has been completed.

B. Verify that substrate conditions are ready to receive work as instructed by the product manufacturer, where applicable.

C. Verify through documentation from Sheet Metal Contractor that passivation agents have been excluded from the installed galvanized metal. If passivation agents have been used, prepare substrates accordingly prior to receiving work as instructed by the paint manufacturer and sheet metal manufacturer.

D. Examine surfaces schedules to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

E. Verify that metal surfaces are pH neutral or within limits set by coating manufacturers.

3.2 PREPARATION

A. Mask all items not scheduled for painting prior to preparing surfaces or finishing.

B. Bare Galvanized Sheet Metal Items:
1. Remove surface contamination and oils and wash with solvent. Apply full coat of paint primer same day as cleaning.

3.3 SURFACE PREPARATION (CHEMICAL TREATMENT)

A. Apply in accordance with manufacturer's instruction.

B. Rinse thoroughly with water.

C. Allow to dry.

3.4 APPLICATION - GENERAL

A. Apply all products in accordance with manufacturer's instruction.

B. Do not apply finishes to surfaces that are not dry.

C. Apply each coat to uniform finish. Minimize brush strokes or roller marks.

D. Sand metal lightly between coats to achieve required finish.

E. Vacuum clean surfaces free of loose particles.

F. Allow applied coat to dry before next coat is applied.

3.5 APPLICATION

A. Apply single coat of paint primer to achieve dry film thickness of 4.0 to 7.0 mils.

B. Apply two coats of finish paint to achieve dry film thickness of 2.0 to 3.0 mils. Total coating system shall be 5.0 mils, minimum.

3.6 REJECTION

A. Bases for rejection of coating applications include:
   1. Mismatched colors from different batches.
   2. Runs, drips, sags, orange peeling and other aesthetic coating defects.
   3. Pinholes, voids, skips and other performance-diminishing defects defined in SSPC/PDCA documents.
   4. Coating failing paint adhesion and thickness tests.

3.7 CLEANING

A. Clean work under provisions of 01700 – Contract Closeout.

B. Collect waste material which may constitute a fire hazard, place in closed metal containers, and remove daily from site. Legally dispose off-site.

C. Clean window glazing of paint and maskings or adhesive residues.

END OF SECTION

Section 09960

ELASTOMERIC COATING

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Surface preparation and application of elastomeric coating on exposed concrete encased beams.

1.3 RELATED SECTIONS

A. Work related to this Section includes, but is not limited to, the following:

1. Section 03700 – Concrete Repairs
2. Section 07900 – Joint Sealants

1.4 REFERENCES

A. ASTM D16 – Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products.

B. PDCA (Painting and Decorating Contractors of America) – Painting – Architectural Specifications Manual.

1.5 SUBMITTALS

A. Submit all product information.

B. Samples: Submit manufacturers standard color chart for owners color selection.

1.6 QUALIFICATIONS

A. Applicator: Company specializing in performing the work of this section with minimum 5 years of experience.

1.7 REGULATORY REQUIREMENTS

A. California Air Resources Board (CARB)

B. Bay Area Air Quality Management District (BAAQMD).

1.8 DELIVERY, STORAGE AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Include on container label: Manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Store paint materials at minimum ambient temperature of 45°F and a maximum of 90°F, in a protected ventilated area, and as required by manufacturer's instructions.

1.9 ENVIRONMENTAL REQUIREMENTS

A. Do not apply materials when surface and ambient temperatures are lower than 45°F or higher than 95°F.

B. Do not apply materials if substrate is wet or damp.

C. Do not apply exterior coatings during rain or snow, or when relative humidity is outside of the RH ranges required by the paint product manufacturer.

D. Do not apply materials until finish coat has been allowed to cure a minimum of 28 days and sealants have been allowed to cure a minimum of 5 days.

E. Manufacturer specifies that application should be rescheduled if there is rain is expected within 24 hours.

1.10 EXTRA MATERIALS

A. Provide five gallons of each color, type, and surface texture to Owner.

B. Label each container with color, type texture and locations, in additions to the manufacturer's label.

1.11 MOCK-UP

A. Construct a mock-up of for coating installation before proceeding with work. The location of the mock-up will be selected by the Engineer. Provide a separate mock-up for all colors selected by owner.

B. Provide adhesion test in the presence of the manufacturer's representative, owners' representative, and Engineer of mock-up coating to confirm acceptability.

1.12 QUALITY CONTROL

A. Manufacturer will perform tape adhesion tests on the coating after application to ensure proper bond of coating to substrate. Engineer will also inspect and measure dry film thickness at various locations. If inspection shows that proper adhesion or specified dry film thickness has not been achieved, Contractor shall perform corrective work to the satisfaction of the Manufacturer and Engineer at no extra cost to the Owner.

B. Coating Manufacturer will observe the application of the coating and provide a written report to the Engineer regarding the acceptability of the Contractor's application techniques, means, and methods. Manufacturer will provide bi-weekly visits to observe coating and conduct adhesion tests.

1.13 WARRANTY

A. Provide a manufacturer's warranty stating that the colors of the surfaces coated as part of the work in this section shall, at the end of two years, have remained free of noticeable fading.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Products listed below are by GE Momentive, unless otherwise specified.

B. Product manufacturer is to be the same as for materials supplied for Division 07 Section "Joint Sealants."

2.2 MATERIALS

A. Vapor Permeable Elastomeric Wall Coating
   1. Elastomeric Coating:
      a. SilShield® Silicone Elastomeric Coating by GE

B. Color: As selected by Engineer from Manufacturer's standard range of color options.

C. Acceptable alternate: Equivalent Dow Corning Silicone Elastomeric Coating.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that substrate conditions are ready to receive work as instructed by the product manufacturer, where applicable.
   1. Perform adhesion testing of coating to the substrate

B. Beginning of installation means installer accepts existing substrate conditions.

3.2 PREPARATION

A. Prepare surfaces in accordance with manufacturer's instructions.

B. Complete crack and spall repairs to concrete prior to application of coating.

C. Mask all elements not scheduled to receive coating prior to preparing surfaces or finishing, including windows, masonry other surrounding elements.

D. Remove dirt, dust, oil, grease, rust, mildew, biogrowth, chalk, efflorescence, concrete laitance, concrete form release agents, concrete curing compounds, loose particles, other bond breaking contaminants, and unsound materials.
   1. Solvents shall not be used on concrete. Concrete must be free of release agents, curing compounds, or other adhesion inhibiting contaminants.

E. Pressure wash wall surface to remove all residues. Take all appropriate measures to contain water so as to avoid water overspray onto adjacent properties and street.

3.3 APPLICATION

A. Apply all products in accordance with manufacturer's instructions.

B. Do not apply finishes to surfaces that are not dry.

C. Install sealant at required locations including, but not limited to, perimeter joints and any other location that will not allow for the continuous waterproof applications of the coating.

D. Apply primer at areas as recommended by manufacturer.
   1. Allow primer to fully dry before commencing coating.

E. Fill all surface irregularities and rough spots per manufacturer's guidelines.

F. Start and stop coating application at inconspicuous locations each day so as to avoid discontinuities at noticeable wall surfaces.

G. Apply two coats in uniform finish using roller or airless spray or nylon brush to the top and sides of the concrete beam.
   1. Apply each coat at a rate of 80 sq ft per gallon.
   2. Allow a minimum 2 hours drying time between coats – allow more time as required based on climatic conditions.

H. Total nominal dry film thickness of elastomeric coating shall be 10 mils (2 coats are required to meet the 10 mil thickness requirement).

I. Finish elastomeric coating shall have no pinholes nor any holidays nor any other visible defects and shall fully coat the wall surface.

3.4 CLEANING

A. Collect waste material, which may constitute a fire hazard, place in closed metal container, and remove daily from site.

B. Dispose of waste as required by local, state, and federal regulations.

C. Clean any surface that is inadvertently coated.

END OF SECTION